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One workshop at Michigan State University and another at the University of Florida were held in February 1969 to assist junior colleges in developing and selling the idea of well-rounded occupational curricula. More than 110 representatives attended each conference. This monograph records first the topics and discussions covered at both Gainesville and Lansing, and then those dealt with only at Lansing. Part I covers (1) general problems (planning for occupational education, role of advisory committees, community involvement, cooperative education programs); (2) major area developments (allied health and medical training, science and engineering technology, business-related courses, public service and law enforcement); (3) reports by colleges on their own outstanding programs; and (4) special talks on new approaches, new trends, and necessary ingredients in occupational education. Part II contains supplementary comments on (1) planning and coordination, (2) outstanding programs, and (3) the development and function of the community junior college in general, the dynamics of technology and society, and the importance of liberal learning in technical education. Participating colleges and their representatives are listed. (HH)

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OCCUPATIONAL EDUCATION IN THE JUNIOR COLLEGE

SELECTED PROCEEDINGS

from

TWO WORKSHOPS ON OCCUPATIONAL EDUCATION

sponsored jointly by

THE PROGRAM WITH DEVELOPING INSTITUTIONS

and

THE OCCUPATIONAL EDUCATION PROJECT

of

THE AMERICAN ASSOCIATION OF JUNIOR COLLEGES
Washington, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Edited by

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and

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UNIVERSITY OF CALIF.
LOS ANGELES

SEP 15 1969

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

JC 690 329

March, 1969

MONOGRAPH
No. 3

INTRODUCTION

In the development of the comprehensive community college, training for jobs has been assigned an importance equal to that of the academic (transfer) function. It may soon be given even greater importance, in view of urgent domestic problems.

Yet in the great majority of community colleges, occupational education has developed at a relatively slow pace, lagging behind the academic program. There are many reasons for this -- the high cost of equipment, shortage of trained faculty, failure to communicate with students and their parents. These obstacles must be overcome in the next few years, particularly in the smaller developing colleges, if the comprehensive community college is to live up to its name.

In some states the cost factor has been offset by increased state support for occupational training (in Mississippi, North Carolina and Florida, for example). But in most states the process of developing well-rounded occupational curricula in the community colleges, and then selling the idea of technical training to the students and parents, has hardly begun. The developing colleges, particularly, have felt the need for assistance in these areas.

Because of this felt need, and in response to many requests for special assistance, the AAJC Program With Developing Institutions enlisted the aid of the AAJC Occupational Education Project (financed by the W. K. Kellogg Foundation) in organizing two special workshops in February, 1969, on expansion of occupational programs. One was held in the north (at the Kellogg Center for Continuing Education at Michigan State University, East Lansing, Michigan), and one in the south (at Gainesville, Florida). The heart of each program was a series of sessions on specific problems and programs in the major occupational areas, followed by questions and comments in the workshop tradition.

Attendance was estimated in advance at 60 or 75 persons for each of these workshops. The keen interest in expansion of occupational programs at this period in history is shown by the fact that over 110 college representatives attended each one -- and less than half of these had their expenses paid. Over 85% of those attending the Florida workshop, and 95% of those attending the Michigan one, evaluated the meetings at the close as "very valuable" or of "considerable value," the top two ratings on a five-point scale. Associate colleges from as far away as Oregon and Arizona, and two Canadian junior colleges, sent representatives at their own expense.

In view of the wide interest, and the requests for reprints of various parts of the proceedings, it was thought desirable to print some excerpts from selected papers and discussions in the form of a brief monograph to make a permanent record. In doing so, the related statements and discussion in each occupational area have been brought together under the Gainesville workshop, and only those portions which were unique to the second workshop are presented in the second (Lansing) part of the monograph. This was done to avoid

repetition and to make the permanent record of the meetings more readable and useful.

We are deeply indebted to Kenneth G. Skaggs, Coordinator, Lewis Fibel, Gilbert Saunders and James Stinchcomb of the AAJC Occupational Education Project for ably covering the key areas of programming in both workshops. Without this total collaboration, the workshops could not have accomplished their objectives.

Selden Menefee, Director
Program With Developing Institutions

Washington, D.C.
March, 1969

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At the Gainesville Workshop on Occupational Education in the Junior College, February 14, 1969, may be seen from l. to r.: Dr. Albert J. Riendeau, U.S.O.E., Kenneth Skaggs, AAJC coordinator of the Occupational Education Project, and James Stinchcomb, AAJC specialist on occupational education.

Dr. Lewis Fibel and Gilbert Saunders, AAJC specialists on occupational education, at the East Lansing Workshop, February 21, 1969.

P A R T I

WORKSHOP ON OCCUPATIONAL EDUCATION

University Inn
Gainesville, Florida

February 14-15, 1969

Sponsored by:

The AAJC Program With Developing Institutions
and Occupational Education Project

in cooperation with

The University of Florida Institute of Higher Education
and
Santa Fe Junior College, Gainesville, Florida

(Supplementary Notes from the workshops at East Lansing
are included in this section)

PROGRAM

WORKHOP ON OCCUPATIONAL EDUCATION IN THE JUNIOR COLLEGE
AAJC Program With Developing Institutions
The University Inn, Gainesville, Florida, February 14-15, 1969

Friday, February 14:

9:00 A.M. - Opening Session: Welcome -- Selden Menefee, Director, AAJC Program With Developing Institutions

OEP Panel Discussion:

Planning for Occupational Education -- Kenneth Skaggs, AAJC
The Role of Advisory Committees -- Lewis Fibel, AAJC
Community Involvement -- James Stinchcomb, AAJC
Cooperative and Work-Study Programs -- Gilbert Saunders, AAJC

10:45-12:15 - Health-Related Programs -- Kenneth Skaggs, chairman. Discussion.

12:30 P.M. - Luncheon Speaker -- Dr. Joseph Fordyce: "Can There Be a New Approach to Occupational Education?"

1:45-3:15 - Science and Engineering Technology Programs -- Lewis Fibel. Discussion.

3:30-5:00 - Business-Related Programs -- Gilbert Saunders George Mehallis, Reactor. Discussion.

5:00-6:00 - Visit to Santa Fe Junior College

7:00 P.M. - Dinner Speaker--Dr. Albert J. Riendeau, U.S.O.E.: "New Trends in Vocational Education."

Saturday, February 15:

9:00-10:30 A.M.- Public Service, Law Enforcement Programs -- James Stinchcomb

10:45-12:00 - Feedback: Reports from the colleges, and general discussion of all programs. Consultants on Firing Line.

12:00-12:15 - Summary remarks -- John Orcutt, AAJC/PWDI

12:30 P.M. - Luncheon Speaker -- Dr. James L. Wattenbarger, U. of Fla.: "The Necessary Ingredient."

OPENING REMARKS

by Selden Menefee, Director of the AAJC Program With Developing Institutions, at Gainesville, Florida, February 14, 1969

I want to welcome all of you to Gainesville, and I want especially to thank our two resident consultants here -- Joe Fordyce, president of Santa Fe Junior College, and Jim Wattenbarger of the University of Florida -- for the very fine arrangements they have made for us here at the University Inn.

Let me explain how this meeting happened to be called -- this workshop and the one to come next week in East Lansing, Michigan, for the colleges in the northern part of the country.

All through this year we have had expressions of interest in, and actual need for, consultation and advice on problems of occupational education. As you know, this area of education is a great challenge, especially to the comprehensive community college. The comprehensive junior college must develop more job training and must build its curriculum to meet the needs of the communities concerned. And so, after some deliberation, we determined that we would schedule some specialized workshops to discuss occupational education, and especially new trends in this field, and how colleges can act to extend their occupational curricula. So, we had some conversation with the staff of the Occupational Education Project of AAJC, which is financed by the Kellogg Foundation; and they expressed willingness to work with us. So we have jointly sponsored this pair of workshops to work on the problems of occupational education, and the entire staff of the Occupational Education Project has combined with the staff of the Program With Developing Institutions, to try to bring to you the best available knowledge in this field.

Our initial session will be a panel program in which the four leading professional members of the Occupational Education Project of the American Association of Junior Colleges will discuss in general terms how best to develop occupational programs. Let me introduce all four of them at once now, and then the panel will go ahead with their discussion.

At the top of the list we have Kenneth Skaggs, a former Floridian -- you will know him from West Florida and more recently as Vice President of St. Petersburg Junior College. Ken heads the Occupational Education Project and in fact coordinates special projects of the American Association of Junior Colleges. His special field is health-related programs (he will conduct a full session in this subject area later). Second, you will hear from Dr. Lewis Fibel, who is our expert on science and engineering technology programs. Third, you will hear from Gilbert Saunders, who is our expert on business-related programs, including such areas as data processing; and finally, James Stinchcomb, our expert on Public Service and Law Enforcement Programs, will speak. Ken Skaggs will now kick off the panel discussion which will precede the four specialized sessions on subject matter areas.

I
OCCUPATIONAL EDUCATION WORKSHOP
PANEL DISCUSSION ON GENERAL PROBLEMS

Kenneth G. Skaggs, AAJC: PLANNING FOR OCCUPATIONAL EDUCATION

Four elements of good planning are:

1. Need for the program must be well established. Surveys must be made to establish it. Casual surveys or isolated views are not enough. You must have identification of the consumer (employer). The growing number of young and old people in the population may also be a major factor.

2. Recruitment of students is a key consideration. Enrollment is rising less rapidly now. Will the students take the courses offered? We must know something about this in advance.

3. Financial resources: Occupational education is often expensive. You cannot depend entirely on Federal funding; this is largely for programs already under way. Local resources need to be tapped to assist in development ... industry, foundations, etc.

4. Instructional resources: The problem is, where to get the teachers. Occupational programs are sometimes caught in the professional-government-market place bind, unable to compete for teachers because of pay scales. After all, nursing teachers can only be nurses. Identify your teachers early, before you register students, or you may be in trouble.

There are several questions:

1. How can we get occupational education into smaller institutions?

2. How can we communicate our needs and programs to the public? Terminology is important. "Paramedical" is a bad word today; "health-related" is preferred. "Voc-tech" programs have become "occupational" or "career" programs. "Terminal" education has been replaced by "continuing" education. (The educational life of a dental assistant is nine years. Technicians must go back, and back for retraining ....)

3. How can we combat the belief that machines are replacing technicians? People still have to operate machines.

4. How can we convince students that their training is important?

5. How can we overcome industry's prejudices against junior colleges?

Lewis Fibel, AAJC: THE ROLE OF ADVISORY COMMITTEES

This is not a new concept. Advisory committees go back to the Smith-Hughes Act. (A show of hands indicated that only two here present do not have such committees.) Industry advisory committees are only one input in curriculum formation. Other sources of information need to be incorporated, such as (1) national surveys, (2) follow-up studies of program graduates, and (3) expertise of the faculty. Not everything needs to be done by an advisory committee.

(Let's not talk about the life of a program -- but the half life, like radioactivity. What the student learns never disappears; it only needs supplementing.)

There are three things occupational programs must do:

1. Occupational programs must meet the needs of industry and business. (Advisory committees influence industry in making jobs available for college trainees.)

2. Occupational programs must meet student needs; they must attract students.

3. Occupational programs must provide for changes, in jobs and techniques.

How to set up an effective advisory committee:

1. It must understand what is expected of it, and what the procedure is.

2. Administrative problems: Who should select it? What is the length of service? How many members should there be? Who is to become chairman? Who will do the secretarial work? Who will meet with the Committee? How are members rewarded? (The last is very important.)

3. What do you do with the advice you receive? What action is taken, and how is the advice communicated to the college, industry, and the general public? (You must report this back to the advisory committee.)

Put yourself in the place of your advisory committee members -- Would you be happy with the role assigned to you? Define their role to them carefully, and USE THEM WELL -- OR DON'T USE THEM AT ALL.

Recommended reading: Samuel Burt's book on Industry and the Advisory Committee (McGraw-Hill); and even better, Al Riendeau's book written for the AAJC, on advisory committees. He suggests 13 functions of such committees.

James Stinchcomb, AAJC: COMMUNITY INVOLVEMENT

Working with other organizations in Washington has been profitable -- they need to know more about the role of the community college. Leaders like to feel they know what is going on. We are calling attention to the A.A. degree and the role of the technician. We have pointed out the changing needs and new skills; also, the need for upgrading those currently employed. This may be the greatest contribution of our Occupational Education Project.

In dealing with Washington officials and organizations, you realize how little they know about the community college. Dealings with HEW-USOE, Department of Justice, National Science Foundation, Labor, Transportation, U.S. Public Health Service, etc., are important. Trade associations and professional organizations, especially, are important contacts for advisory committees. Example: Traffic engineering -- we broke through on this at the national level. There is great local loyalty to the national organization, as a rule.

Local people must be on formation of new programs. If they hear about it from their national headquarters, it also helps.

Health, chemical, data processing, and other organizations can be clued in at both national and local levels. You can reinforce our efforts on the local level.

* * *

Gilbert Saunders, AAJC: COOPERATIVE EDUCATION PROGRAMS

I would rather use the term "work-related educational experiences." This is cooperative education in the broadest sense.

Advisory committees can help to identify jobs for such work experience programs. The benefits are: Integration of classroom and work experience. "This is where the rubber meets the road." The advantages to school, student, and industry are mutual. Work and study programs are strong in engineering-related programs, but they can be developed in every occupational field. Even liberal arts colleges are participating in cooperative education plans. If they can do it, certainly it should be done in all occupational program areas.

Are you willing to commit enough effort to make the cooperative education plan work? If so, you can greatly strengthen your programs. Do not confuse such programs with those concerned with helping the student to explore the world of work, or to earn money to stay in school. While these programs have virtue in their own right, the ones I am speaking of are those in which there is a specific set of learning experiences to take place on the job.

II
MAJOR AREA DEVELOPMENTS

ALLIED HEALTH AND MEDICAL TRAINING PROGRAMS

Kenneth G. Skaggs, Coordinator
AAJC Occupational Education Project

The allied health field is a fluid and dynamic area of occupational education. The main issues are:

1. The rapidly rising number of health programs and increasing specialization. "Cobalt technician" for example. We must relate the training to the job.

2. The problem of getting the profession itself to use technicians as much as possible. Physical therapy is an example. The need is great. We train "physical therapy technicians" to work alongside professionals.

BUT -- professionals out in the country are slow to use technicians, however great the need for them may be. We need to educate the professionals, and to agree on a careful definition of the role of the technicians.

So far, (a) the Certified Laboratory Assistant one-year program has been the only lab technician program recognized fully by the profession. Graduates are certified by an examining board. Some seventy-five colleges have such programs.

(b) Now we have developed, after two to three years of effort, the MLT (Medical Laboratory Technician) program, a nationally recognized two-year A.A. program. (We have fifty-eight MLT programs already in existence around the country. Often, local needs produce such programs even before they are nationally recognized.)

(c) Above this is the medical technologist or pathologist -- requiring a four-year baccalaureate degree. (A shorter two-year technician program is also needed to produce lab assistants in these fields.)

3. The Allied Health and Medical legislation -- the Federal act -- has frustrated the junior colleges. The laws need to be changed to accommodate our programs. At present:

(a) Only eleven out of sixty health-related programs we now have, are defined as eligible for Federal support.

(b) Only institutions with multiple programs with a minimum number of students can get support.

(c) The Act only supports programs already under way, whereas the greatest need is for planning health programs and developing new ones to meet existing demands.

4. Close relationships with the professions are still being developed. Apprenticeship training by doctors is still prevalent. They don't understand the community college and are skeptical. They still equate length of training with quality of education.

5. Expense of new programs: If all facilities are on campus, this can be prohibitive. But smaller programs can often use the facilities of practitioners, on a work-and-study arrangement. This is the extended campus facility approach. It can make many new programs possible.

6. Development of core programs is desirable wherever possible. Some colleges have twelve or fifteen related programs. Common elements need to be developed, with spin-offs into various specialties. This often requires special courses for these related programs, oriented toward the subject matter involved. The formulation of the core program is only beginning.

7. Availability of students -- and jobs -- must be considered. About 100,000 new people will be needed in health work in the next few years. Where will they come from? Community colleges must help to fill this need.

8. Only about half of all nursing trainees qualifying for jobs actually enter hospitals and clinics. They take other jobs that pay better, like home nursing, etc. This is true right down the line. Opticians asked for the optical technician program, but when it was started, none of the graduates went into the health areas which supported the training program. They got high-paid jobs in industry and government instead. There are sixty health-related programs now offered in junior colleges. Nursing, dental technician, MLT programs, etc., are the biggest.

As to future trends: Patient Care Programs need to be developed. Medical Secretary and Medical Record Programs can be spin-offs from business courses. The Mental Health Technician Program is being strongly supported. It is estimated that 20 per cent of the population needs such help, from qualified mental health people. The MHT can work with doctors and psychiatrists, helping them with the more routine aspects of their work. Bio-Medical Equipment Engineering is also a big field. And retirement home workers are needed at technician level.

* * *

DISCUSSION

Edison Newman (Dept. of HEW): I concur on the limitations of the Health Manpower legislation. It needs to be amended. Funds are also a limitation.

George Mehallis (Consultant-reactor): Some colleges are falling on their faces in occupational programs because of poor planning and duplication. The state should be involved whenever possible when you are planning programs.

Coordination is one answer to high costs and obsolescence. At Miami-Dade, aerospace programs are being developed: Pilot training,

which depends partly on safety training, for example. This is expensive. It would be silly to have more than one program of this type in an area.... Mortuary Science (the only truly "terminal" program) is now in its fourth year at Miami-Dade. This is the largest program for funeral directors in the U.S. It was originally designed for 125 students, but has now increased to 160. This is the only such program in our state. The national organization of funeral directors raised some questions about it; but our advisory committee asked for accreditation, and it was given.

* * *

Questions:

Q: How do you define "core curriculum"?

Skaggs: An integrated, unified, course of instruction designed to meet common needs of several programs.

Q: Isn't it unwise to do this, in view of the need for flexibility? Is the core program transferable?

Skaggs: I am not sure the core approach is the most effective approach in all cases, but it is worth trying. It saves some money, but it may create problems of transferability. However, transferability is less important than effectiveness. It should be considered as one factor - but, what is transferable? Senior institutions differ. We cannot control the receiving institution. If we can produce good graduates, we can then work on the problem of transferability.

W. Ardell Haines (Allegany CC, Md.): What is the effect of the core program on flexibility?

Skaggs: It may be more standardized than individual courses would be. But we are going to have to find common elements as our programs multiply.

Haines: What can the smaller community colleges do to avoid duplication?

Skaggs: We must move toward regional or state coordination. These small junior colleges can compete for a nursing program in the area, or pool their resources. Here the state can help to decide the location of the programs. This is done in Florida and California to some extent.

B. Franklin Lowe (Chowan C, N.C.): We have nursing and graphic arts programs. Over 60% of our graphic arts students are now transferring to senior college; in nursing, many RN's are transferring,too.

Charles Barnes (Dodge City CC, Kans.): We must know what the four-year colleges are doing before we can act effectively. The Kansas-Nebraska consortium (of both two and four-year colleges) is trying to coordinate health programs; first, we are surveying what the various colleges are doing now at both levels.

Skaggs: We are ready to help on this problem. Ralph Kuhli, Executive Director of the Department of Allied Professions and Services of the American Medical Association (AMA), is another source of information. Most health-related programs are in the junior colleges, not in the 17 university-based institutions. We are now getting together with the universities to coordinate our efforts.

James Wattenbarger: I feel very strongly that we should not frustrate a program or ruin it because of "transferability" considerations. Programs must relate only to the occupation. I would not change a program one whit to make it transferable.

Skaggs: I agree. Let us not prostitute our programs on the altar of transferability. We must not lick the hands of the universities.

Mehallis: Can LPN (Licensed Practical Nursing) graduates go on to RN training?

Skaggs: I believe the two should be put together; they should not have to take the same courses over. Arbitrary course requirements must be altered. When Viet Nam vets come back home they will want to use their training. Corpsmen, for example, will want to use their skills; update them for civilian use. They may know more than their teachers. What shall we do with them? They should not be forced to cover the ground they already know from experience.

* * *

FURTHER DISCUSSION AT EAST LANSING WORKSHOP

Kenneth Skaggs (selected comments): Bob Kinsinger, in a study sponsored by AAJC, identified 40 allied health areas for two-year training. But we must guard against programs too highly specialized, which rapidly become obsolete. We may specialize, but we must warn students of this danger.

The question is: What kind of a career opportunity is offered? Now, take Medical Lab Technician, as an example. This is a true career program. Spin-offs from it may be more limited in scope. Such lines as psycho-technologist and radio-isotope technologist are not necessarily sound career programs. They are very limited. In curriculum building, we must consider the function and role of trainees. There are legal limitations. And this is a sensitive matter.

There is also a danger of overtraining of the student in some areas. Many technical jobs do not require four years of college. Two years is a more appropriate time.

Usually general courses take 24 to 30 hours of the 60-hour total in two years of training.

Every program must build toward continuing education -- retraining. Short-term in-service courses are equally necessary, after the original training.

What is an A.A. Nurse? An R.N., the same as a four-year graduate. The original intent of the two-year program was to train bedside nurses - not supervisors. But the two-year nursing trainee has done a remarkably good job, and the distinction becomes blurred. The A.A. nurse has a higher rate of failure to pass state nursing exams than the four-year trainees, but this is to be expected.

Many hospitals are now successfully employing support people who are trained by our colleges with good supervision. One institution has enrolled 20 to 40 inhalation therapy students in a new two-year program. This may be justified. But other courses of this type -- occupational therapy, etc. -- often have only 6 to 10 students. They are expensive.

A controversy is brewing over the selection of students in health programs. What about the open-door policy? Health programs may require some selectivity of students. Suitable temperament and abilities may be required for success. Institutions with the highest standards often attract the most students. But each college will have to set its own policy on this.

We are enrolling older people in many health programs. In Denver, the average age of nursing students is 29 -- because of older people returning for training. This older age group is a great resource for the community colleges.

Teacher recruitment is a key problem. Have you anyone to teach the specialized health courses? How much can you pay teachers? Salaries are rising -- but not fast enough. So there are shortages of personnel everywhere. (Lab tests, typically, are days behind schedule due to inadequate personnel.)

What about the growing impact of <u>automation</u> in science? Auto-analyzers can do all 36 blood and urine tests for 12 samples at a time within one minute. No fringe benefits for these machines, either. How will our people fit into this picture?

A <u>Bio-Medical Equipment Engineering</u> program is one answer. Where there is a need, we must try to fill it. I have seen colleges that offer programs with a minimum of equipment. You can use outside clinical facilities to give on-the-job experience. Nursing programs can get by with a simulated clinic on campus, and go to the hospitals for on-the-job clinical experience. But -- unless you have adequate clinical facilities available somewhere nearby, <u>don't start</u> a program like nursing. (A projected AAJC booklet on "Extending Campus Resources" will help.)

Big institutions don't have as much of a problem as small ones. But all community colleges can develop some programs in two main health-related areas: (1) Patient Care programs, and (2) Medical Lab, Medical Record-Keeping, Admissions Clerk, Medical Secretary, etc. These latter programs may spin off from other existing programs, if needed.

Other possibilities: <u>Hospital Ward Management</u> is another new

field. Mental Health Technicians and Emergency Medical Technicians are also needed -- the latter for the emergency rooms in hospitals, and riding ambulances.

These programs all release doctors and nurses for their prime duties.

* * *

DISCUSSION

Questions:

Q: Can such programs be funded by Federal grants?

Edison Newman (DHEW): As I pointed out in Gainesville, the Allied Health Training Act does not help institutions to develop new programs -- but only on-going programs.

John Grede (Chicago CC): As I look at the programs on our eight Chicago City College campuses, the Allied Health concept implies a team relationship. Health Services would perhaps be a more useful term.... One problem is the great number of specialized programs. Prestige value accrues from having a unique program, but this may be detrimental to the over-all planning. We need some state master planning to avoid waste and duplication.

We should concentrate on fewer programs and better output. The Associate degree nursing program had to fight for its identity. This is over. Now we need to open up our A.A. Nursing programs more. They are developing a sort of arterio-sclerosis. We need more black students, for example.

At Chicago City College we have 28-week programs in many health areas. They cover basic education plus work experience. We need to start thinking about diversifying our nurse training program. We had to turn away about 400 people from a single nursing program.

We need to develop preliminary levels or ladder-type programs. There should be several entry points.

Donald Newport (Platte College, Nebr.): What about core programs? What can we do?

Skaggs: For many, "core programs" are simply rearrangements of present courses. The best way is to examine the common features in several of your programs, then develop common courses that are new, that meet your needs. We have a national committee working on this in the health field. An Arizona State (Tempe)study has identified some common areas for core development.

Grede: Core to us means a 14-week common core program for medical technologies -- then they spin off into 14 weeks of more specialized training.

Norman Smith (Bucks Cty. CC, Penna.): What about three-year courses?

Skaggs: We're at work on several levels - from one to three years. The Medical Laboratory Technician program will soon be standardized.

Q: Very few M.A. degree nursing teachers are available. The colleges are short of staff. Yet we are told associate degree nursing programs may become stiffer. Are requirements (in credit hours) generally going up to 60 hours?

Newman: At the graduate level, about 35 or 40 universities and four-year colleges are offering faculty training for nursing teachers.

Teacher education receives top priority in Allied Health Act funding. We are doing what we can.

SCIENCE AND ENGINEERING TECHNOLOGY PROGRAMS

Lewis Fibel, AAJC
Occupational Education Project

The main thrust of science and engineering programs in the junior college has been on the two-year basis -- civil, mechanical, and electrical engineering technicians. Graduates are much in demand. A new trend is to develop programs not tied to a two-year schedule, like the ECPD (Engineers Council for Professional Development) programs, where the math base is at calculus level. We also need programs less advanced in math in industrial technology, for instance. Also programs in agriculture, mining, auto, aviation, plastics, etc.

There are shorter programs for draftsmen, laboratory assistants, etc. These facts stand out:

1. Over 70 colleges and universities offer baccalaureate degrees in technology on a four-year level. This is often a well recognized management component.

2. Teacher training is another great thrust, to produce a trained faculty for occupational programs.

3. One trend is toward adding on to A.A.-level programs to make a B.S. degree possible. Transfer of credit is involved here.

Inter-disciplinary programs are now coming in, such as

1. Electro-mechanical technology (for electrically-run, electronically-controlled machines, that perform a mechanical function).

2. Electro-mechanical-chemical technology (as in computer manufacturing). A consortium has been formed to involve six colleges in this.

Still more specialized fields, some in actual use, are:

1. Electro-optical technology (this includes the use of lasers in manufacturing).

2. Use of computer-controlled machines to fabricate metal.

3. Nuclear power technicians (a program to produce operators of nuclear plants).

Problems involved are many:

1. Cost is a key factor in this field. These are expensive programs.

2. Faculty is hard to come by in the engineering technician field.

Pre-service and in-service training of teachers is a problem. Teachers must stay in touch with trends in industry. They must be prepared to brush up, undergo renewal, annually.

3. Recruiting enough qualified students is the third problem. We must build in student mobility -- vertical and lateral. ("Technician" is not a particularly prestigious position yet.)

4. Industry acceptance is not all it should be.

5. Research and evaluation needed in colleges. We are not evaluating the results of our input. Even 3% or 5% of the input funds, such as industry spends for research, would result in helpful answers.

The fastest-growing manpower area is the technician level. The community college is the place to deal with this. It will become the predominant institution for training technicians.

* * *

DISCUSSION

Mehallis: You can't do tomorrow's job with yesterday's tools. Are our senior colleges doing the job they should do in training counselors? Do graduates know the new fields? Let's identify the competencies industry needs. Let's forget transferability.

Mary Lamar (ABAC, Ga.): If allied health occupations or others are subject to licensing, can or should an A.A. degree be held up until an examination is passed?

Richard Strahan (Lee C, Tex.): There should be no relation between the two. Not all law graduates wish to take the bar exam, for example.

____: The program would become oriented entirely toward the licensing exam, if this were a requirement for the associate degree.

Skaggs: I agree that the two should not be joined.

Jos. Scarlett (Catonsville CC, Md.): How do you determine wishes of the students? What kind of survey do you need?

Fibel: A careful survey of employers, and of interested students, is called for. Enrollment is the ultimate criterion. If they do not enroll, then you may have to change the program. Also, a continuing P.R. (public relations) program is needed for students and parents - and industry, too, to make jobs more attractive ... such as by having an appropriate salary structure.

Q: On chemical technology -- how do you attract students? Industry needs these technicians, but the students are not attracted to it.

Fibel: Industry should back its demands by cash, scholarships, jobs -- to bring students into the industry or laboratory. If nurses are needed, the community must make nursing more attractive, by raising salaries, etc. Do not blame the colleges, We don't set the conditions of employment.

Pres. Haines (Allegany CC, Md.): How do we justify educating students who must go elsewhere to work? It is difficult to convince the boards of trustees of this.

Fibel: More state or regional planning is needed (as in Virginia and North Carolina)to apportion the training.

C. J. Collum (Lee C, Tex.): You fight a losing battle if you try to teach electronics in an agricultural area.

Fibel: If the program does not attract students, the program should be scrapped, and this is one of the hardest things to do .... Students in the Midwest are attracted more to marine technology programs than students on the coast, oddly enough.

_____ (Lenoir Cty. CC, N.C.): The Dupont people want to train their own people in technical skills, but they want us to train them in math and English.

Fibel: If Dupont wants to do its own training, fine. If they can do the job better, we should welcome this.

Skaggs: In the health field, cooperative education is very useful. Hospitals and laboratories provide specialized training, and the colleges, general education. Chicago City College, Crane Campus, is joining with the diploma school in a local hospital to share the training. Essex Community College, in Maryland, has also joined with the local hospital. At Fort Lauderdale, they have the same program with five hospitals.

Strahan: How much trouble are we having with state plans?

Fibel: The law now mandates state plans for occupational training -- with junior college representation on the State advisory Council. Fifteen percent is set aside for post-secondary education. Allocation will be on the basis of the plan, not on a per student basis.

Q: Is special accreditation by professional societies the trend?

Skaggs: No - not in nursing. The final decision on this was to open several paths to accreditation -- including regional accreditation. In nursing the situation is clear, but medical lab technician has five professional agencies which must be considered. We need regional or institutional accreditation, or we will have an impossible situation.

Fibel: The National Commission on Accreditation has created a problem in the occupational field by lumping profit-making schools with

others. Professional associations will demand an increasing role. Teachers are usually in favor of this -- the stamp of approval by their peers. Students also sometimes approved it. In time they will loosen rigid standards somewhat. They do not have valid exams, nor do the licensing boards. Our limitations are shown by these figures: 1700 engineering technicians are certified, but there are between 300,000 and 400,000 such technicians in the United States.

Q (ABAC): What role do you give advisory committees?

Mehallis: Let them determine what skills should be required. Stop at that, unless they can help further in marketing the finished product.

Q (Winston-Salem): To what extent do we use advisory committees to win friends and influence people? What are their uses?

Mehallis: We use them to help us find sites, as well as for the content of courses. It helps to have the specialist know what the course includes. In marine technology, some obtained jobs after only one semester. "The community is our laboratory." ... You have to pull the advisory committee together - and give them a charge. They usually meet only one to two times a year.

Fibel: You can use an advisory committee (or resource committee) for any useful purpose. Use not only P.R. types, but technicians, also.

Jack Hazelton (Mohawk College, Ontario, Canada): We have 250 people -- leaders in their fields -- on advisory committees. We throw them jobs such as advising us on the type of computer we should buy, etc.

P. Hale Aust (Northeast Mississippi JC, Boonesville): Are they craft committees? Or general committees?

Fibel: You can have both general and specialized committees -- whatever you need. Go out and get the people you need. They are usually glad to serve.

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SUPPLEMENTARY DISCUSSION FROM EAST LANSING WORKSHOP

Lewis Fibel (selected comments): One of our handicaps is, the technician's image needs to be enhanced. A public service advertising campaign will focus on this soon.

Engineering technology programs are pretty stable and well accepted by the faculty. The American Association for the Advancement of Science has stepped forward to help with math and science components of programs in this field.

We have developed consulting panels through workshops, for civil and mechanical engineering technician programs.

In aviation, five technician areas were identified -- not stewardess or pilot training -- but airport management, flight control, etc. Even crop-dusting has been suggested as a training area.

General aviation has 100,000 aircraft, and scheduled lines, only 2,000.

This is an area with a future --general aviation....

Chemical technology has lagged behind - not for lack of jobs, but for lack of students. Those with chemical aptitude usually go to four-year colleges. The American Chemical Society actually has a specialist on its staff working with two-year colleges.

Biotechnician is a new field -- scientists are pushing it. Physics has lagged, however.

Marine-related programs are booming. Massive Federal funding has been recommended.

Environmental control - Anti-pollution work has a great future. Water and air pollution are of great interest, but no training money has yet been made available for this by Congress. Sanitation training has received a national grant, however.

Norman Harris: One additional problem is, how do you plug the technician into the job hierarchy in industries, like autos, where unions and apprentices dominate? The problem is not so great with NASA -- that is government.... I see a great future in marine-related technology -- truly under disciplinary sea farming and tapping of minerals will boom this.

President Gannon (Lansing CC): One difficulty with vocational education at both secondary and community college levels is, area vocational schools compete with community colleges for state funds. Also, the demand for technician courses is in the evening and early morning. We must get away from the 8-4 P.M. schedule.

Grede: Urban programs are somewhat different from those in small towns. I tend to be over-critical of the two-year associate degree programs. Our pattern is to take programs like industrial chemistry, break it down into painting, heating and ventilating, etc., -- job-related. The time factor is not the most important. Job skills approach is the most productive.

Gannon: We have programs locked into the highway department. And others, like most of the occupational students, are after - hours.

Norman Smith (Bucks Cty. CC, Penna.): Maybe, vocational types are more needed.

Norman Harris: Industry says it needs 100,000 technicians a year, and our colleges and technical institutes, all put together, produce only 65,000 a year. Where is the place of the community

college in technical training? Private technical institutes are a fairly clean-cut operation -- selection is made, tuition paid.

1. Technical training is only one of three levels;
2. Trade-technical programs are useful in urban education (this may be two years or less);
3. Job training - which is a short-term training.

Fibel: There is no need to talk of acceptance of engineering technicians. Industry does accept them, at starting salaries of over $6,000.

Gannon: The man who defines the terms wins the argument. Why don't we consider education as a process, that does not need to be locked into two-year, 8-4 P.M. programs?

Write a prescription for each student when he comes in -- and not necessarily a day program, or a two-year program....

We have bachelor's degree holders in engineering who are coming back to us for specific job-related training.

Harris: The trouble with you is, you're rational, and your rational program would not work with the state and Federal fund-dispensing agencies....

The employer himself is also a problem. They say, "We want the Associate degree." We have won, but we have acquired a problem here.

Don Foreman (Eastern Iowa CC): We should talk more about the other half that is not in the Associate degree program. If we really have something for everyone in a community college.

John McConkey (Tompkins-Cortland CC, N.Y.): In New York, students can challenge a course and pass; also, work experience may be credited. We must take the person, and go as far as we can with him.

In essence, we must become a certifying agency -- to four-year colleges, or to industry.

Fibel: How can you certify a student's skills, to convince the employer?

McConkey: The U.S. Navy occupational test skills worked all right. You have to certify a person's known ability.

L. V. Houtz (Southeastern Christian C, Ky.): I believe mastery of a subject is the important thing.

Gannon: We do have continuous enrollment in typing. Some students take three weeks, some twenty weeks. When the student reaches a certain speed, he completes the course.

McConkey: I would do away with the high school diploma. Yes. It is meaningless, anyway. Above that level, a diploma or certificate will show the level of competency.

Ray Walsh (Jefferson C, Mo.): The biggest problem is with general education. It is correlated with technical -- but not very

closely related. It is correlated with technical -- but not very closely related. General education is too closely patterned after transfer education. But we can't sell this idea to our arts and sciences faculty.

Q: What about other, miscellaneous programs?

Skaggs: Library technician, teacher-aide programs don't fit our four-fold category -- but we divide these up in our AAJC project.... Agricultural occupational training is not dead. Agro-business is alive. We are concerned with all of these....

We now have over 1000 junior colleges. with 2½ million students. By 1975, 1400, with 4 million students.

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BUSINESS-RELATED PROGRAMS

Gilbert Saunders
AAJC Occupational Education Project

Business-related programs are the largest of all occupational programs. They are not all bad -- but they could be better. These are the oldest -- the long-established programs. Are they suffering from old age?

Here are some of the areas I'm talking about:

Distributive Education - This still tends to be oriented to retailing soft goods in the department store. (Supermarket management is a large segment of the demand for personnel) -- but there were no special programs for the supermarkets as recently as a year ago. The top consumers of trainees, however, were Sears, followed by three supermarket chains. So we have now established guidelines for supermarket training (in a recent AAJC publication).

Data Processing - Three hundred seventeen junior colleges have it in some form -- out of 1400 schools. Less than a third of the junior colleges have it, and all this since 1956 only. Computer cuts across all lines -- business, education, etc. Time-sharing on a computer is a good way to break in. Fourth generation computers are about to appear... a great advance over the second and the third. Colleges are still in the second generation. All business trainees should have some training in uses of computers.

Accounting - Are the two-year programs -- transfer or occupational? (1) Colleges and universities tend to move specialized courses to upper division. Are we articulating with them, or offering too much in the lower division, in the transfer program?

(2) Are we looking closely enough at the actual jobs open in the field of accounting? Should we be training accounting technicians to assist accountants? Should we be teaching more data processing in accounting? Technicians could learn this.

Secretarial - Are we trying to train a Girl Friday? Or a specialist? I question whether we should fragment this field ... Executive secretary, medical, technical, legal, social secretary? Even school secretary? It is all right to add a "twist" toward an occupational goal. But are we kidding ourselves? Or are we giving them as much special training as they need? (Secretarial programs have relatively high drop-out rates.)

Agro-Business - This is all right, if it meets specific community needs. Often, however, this is not so.

Petro-Business - This tends to turn out service station operators. That's all right, if they are needed.

Mid-Management - Do we define this precisely? What is it?

It is for middle range, sub-executive type of job. Are we giving the students enough training in supervising personnel? Are we teaching about new products?

* * *

DISCUSSION

Mehallis: Whether we know it or not, we are involved in a systems approach. Computers are a tool of management. We should use them.

We can set a good example to faculty, like having a cathode ray tube in your office. Or like practice carrels in the college -- individualized learning aids.

But the only thing we have raised the level of, in our office occupation programs, is the miniskirt.

Collum: Is any college sharing time on a computer? Does it work?

A: Yes, we share with a high school. They have it to 3:00 P.M. and we have it from 3:00 P.M. on.

Q: Is the trend to give credit for in-service programs on the jobs?

Mehallis: We do, if we are able to supervise the off-campus program and students come to campus one night a week.

Q: Is this the usual policy?

Saunders: Where there is close supervision by the college, credit is usually given. Where supervision and coordination with employer are loose, not so. In the future, work experience programs will increase.

In the 1968 amendments to HEA, provision is made for co-op study program funding. As this program grows, credit will be given to an increasing extent for work.

Q: Are there any guidelines on how much money should be spent on a computer?

Mehallis: One government publication, "Computers in Higher Education," cites 4% of the budget as maximum to spend for both instruction and administrative computer work.

Scarlett: Does business accept the two-year accounting program?

Saunders: Graduates usually go into assistant jobs in large offices. Perhaps we should be changing the curriculum, to improve their eligibility for promotion.

Q: Does business react negatively to the term "occupational education"?

Saunders: No. Perhaps to "vocational," but not "occupational."

Haines: Is AAJC doing anything to help small colleges with the computer problem?

Saunders: Yes. Studies are being made; monographs are planned. Two summer institutes for preparing data processing teachers are set for this summer, under EPDA -- in California and Illinois.

Warning on computers: You can spend a lot of money and buy a box -- and only buy a problem, not a computer. You still have to train the personnel and orient the staff.

James Walters (Central Florida JC): Training is offered in Michigan each summer. Our "1130" is third generation, but it still is not adequate for teaching.

Collum (Lee College, Tex.): We had two workshops last year for computer teachers ... teaching their use in registration, student services, etc.

Mehallis: We have a central computer system at Miami-Dade South Campus, and an "1130" (as a terminal) on the North Campus. There is much storage capacity. We use a communications systems approach.

Q: What about computer business programs?

Mehallis: We have -

(1) Fortran or RPG systems-training for programmers, and
(2) Business information systems.

We have in-service training. We also train key-punch operators -- non-credit for six weeks, and for credit, one semester long.

Saunders: What about the cooperative computer system in North Carolina?

A: We have a teletype connection among colleges -- A regional system is recommended.

Saunders: How many here have a computer or a connection to use one? (Show of hands) A majority have.

AAJC will arrange drive-in conferences on computer use. One is already set for New York, at Dutchess Community College. Others will be set up.

L. N. Donnell(Brevard Junior C, Fla.): What are the differences between certificate and degree programs?

Mehallis: Certificate programs are simply skills programs in business; typing is an example.

Saunders: Certificate programs are often distilled from two-year programs. They may be useful first steps toward degree programs. Often, they are designed for people already working.

Fibel: I reject the approach that implies that some types of skills are somehow inferior to others. The kind of paper you give out at the end doesn't really matter.

Saunders: We can supply consultants to help you avoid pitfalls in expanding your programs. Just write the AAJC Occupational Education project.

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ADDITIONAL DISCUSSION AT EAST LANSING WORKSHOP

Gilbert Saunders (selected comments): New program areas in business include the following:

1. Hospitality education -MSU and Cornell have pioneered this. Junior colleges are now training hotel and motel workers -- often in cooperative programs worked out with industry.

2. Communications and Data System, for controlling traffic safety, is a field that is developing rapidly.

One problem is articulation. Partnership with senior colleges is an absolute must in areas like computer education.

Data Processing teachers need to be trained for junior colleges. Long-range planning is needed for such specialized teacher training.

Warning: Don't buy a 360-40, costing $18,000 a month, and put an $8000 a year man in charge of it ....

Not add-ons, but changes in business curriculum are in order in most junior colleges.

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John Grede (Chicago CC): Our experience is, we don't need a secretarial program as such. At Chicago City College, only 22 people had completed two-year programs last year from all the eight campuses. Several hundred more dropped out at various points to enter jobs, though, so the program is not a failure. Mostly, the secretarial work is taught on a specialized basis.

On Mid-management, too. Shouldn't management-type courses be on a functional basis? Like hospital ward management? This is our experience.

On Data Processing --Decisions may be made for us by the cash factor. The cost is fantastic, for the new machines. Data Processing equipment rentals have soared in cost.

Phil Gannon: The main thing is to convince the student that he must come back, and back, to avoid absolescence in skill. Continuous education is needed in this field. Incidentally, we are putting in third-generation computer which will be shared with other agencies.

Norman Harris: The community college has several roles to play -- short-term vocational and two-year technical and transfer programs.

One comment on what was said on students coming back over and over again to upgrade their skills: We should try to prepare them for several years' employment, not to just return year after year...

Community colleges should be training high-level secretaries. There is great need for that. They should be Associate degree holders or better, and should know all office machines -- and have ZERO defects.

In data processing, there is a hierarchy of jobs -- Community colleges could have programs up through computer programming (with some systems analysis know-how).

Peg your jobs accurately. Call it "data processing technician," not computer programming, if it is not.

Gannon: You can have equal excellence in an eight-week program, or a two-year program. Every program should be excellent -- but at different levels. The need is, to analyze needs of the student and fit them.

Q: What is all this excellence and competence about? Are you trying to please the community? The student is more important.... A secretary should know how to handle people. Our objectives should include this in an over-all program. Senior colleges should accept our programs for transfer, not the separate courses.

Skaggs: Many students never finish a program because they are recruited to jobs. In some programs, no one ever finishes because job openings are so plentiful. In such areas, dropping out is not failing.

One problem is, people often come into a program with some competency in that program. Like returning vets -- Where do we put them? Shall we give them credit for experience? Hundreds of thousands may be released from the armed forces soon. Some junior colleges have already drawn up plans for this, and ETS has already devised testing programs.

We must see to it that opportunities are there for all students. This is the function of the community colleges -- to serve the total population.

Q: Why leave out agriculture?

Saunders: You're right. There are some agricultural programs that are quite successful.

Menefee: Like agro-business, and farm machines.

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PUBLIC SERVICE AND LAW ENFORCEMENT PROGRAMS

James Stinchcomb, AAJC
Occupational Education Project

Police Education and Training will get much more complicated. The community colleges will do most of the training because they can give convenient in-service courses to policemen.

In 1958, there were no police science A.A. degree programs outside of California; and in 1968-69, there are 230, making this one of the largest occupational programs in junior colleges. In California, law enforcement is the number one program -- even leading electronics, despite the fact that police work has no higher education requirement. Police officers realize they have not kept up with modern science.

In 1964, there were thirteen universities giving baccalaureate degrees in law enforcement, and in 1968-69 there were at least forty. Some, like Minnesota, have a dean in charge, and have high visibility. A balanced program is developing in the lower division: Criminal law, criminal investigation theory, criminal laboratory, and administration. In addition, some local needs are added in junior colleges, such as community relations.

Emphasis in enrollment has been on employed police officers. There is a 5-to-1 majority of evening students over day students. It is essential to provide in-service training first, or day students will not be readily accepted for employment on the force. This is not a Higher Education-oriented area. Four-year programs usually lead to Federal employment.

There are many two-year law enforcement graduates who go on to four-year colleges. An advisory committee is needed for law enforcement programs -- but often the members don't understand curriculum organization . You have to translate their advice into practical courses of study.

Incentive pay plans can and should be encouraged in police work. The system needs rewards. About thirty departments in the United States do reward advanced study -- to the A.A. degree. Salaries and promotions may in time come to be based partly on college credits. (Only a few years ago, high school became minimum requirement; today about twenty departments require some college work. Multnomah County in Oregon requires a four-year degree. And now they get more applicants than they did before!)

Word is getting around on salaries -- that the A.A. degree may help the force to get more money. If 50 out of 100 men are pursuing A.A. degrees, it may be easier to get a higher salary scale. New York recently approved $10,950 top pay for patrolmen. Los Angeles has about the same scale. Baltimore has $10,000 basic salary for those with two years of college. Washington, D.C., has put in a starting salary of $8,000 for patrolmen, with only high school re-

quired. (D.C. teachers with college required start at $7,000.) About the recruiting problem: We are working on a plan for cooperative (work-study) education. But we need to get police to accept recruits under 21 years old. A few cities do. Philadelphia now takes them at 19. (Many of our A.A. graduates are only 20, and can't be hired for full duty until they reach 21.) The cadet programs which have been tried are poorly supervised and have not attracted recruits too well. We need a college-supervised, work-study arrangement instead to provide a flow of young recruits. If the police don't get this kind of feed-in, they won't be able to recruit effectively in the 1970's. (See the new AAJC publication, "Work Experience Programs in the Criminal Justice System," by Styles and Pace.)

Section 406 of the Omnibus Crime Bill was processed in November and notices of funding were mailed out in December. It provides for an attack on crime through training programs. There is a direct subsidy, including books and free tuition, for sworn officers. There were $18 million in requests for $6 million in funds available for all colleges. Over 200 community colleges got something from this funding; and now $20 million has been requested for next year for law enforcement in higher education. The bulk of the money goes to community colleges because the intent is to emphasize in-service training.

Corrections. Programs are developing in this area, especially in California. Police coordinators push law enforcement AND corrections. There are about fifty associate degree programs in this field. It is moving fast -- riding the crest with law enforcement. Trained manpower is badly needed here: Parole aides are being trained to help parole officers; they check on addresses, employment, etc. Correctional officers (guards) also can be trained on the A.A. level. The guards have been the greatest stumbling block to correctional progress over the years. College courses for inmates have helped to encourage courses for the guards. Training can help bridge the gap between custody staff and tratment people. Such programs are eligible under Section 406 of the Omnibus Crime Act.

Fire Science is a new program -- coming on strong, and in great demand. We now have 75 fire science programs in junior colleges (seven in Massachusetts, so not all are in California). This takes a scientific approach -- plus skills -- with emphasis on fire prevention. There is Federal aid for fire research and safety programs funded under the Department of Commerce, and this has been used by some colleges. (Firemen who get B.A.'s in public administration often get jobs as underwriters and consultants, instead of getting into the fire departments. You can get insurance company money to help start this program. An AAJC publication on this is due next Fall.

Traffic. The Highway Safety Act of 1966 sets requirements which have increased the need for trained manpower. Few community colleges know about this as yet, however, the fastest growth here is expected to be within the law enforcement area. Manpower will be in great

demand in traffic control work. The states will lose interstate (U.S.) money if they don't have traffic and manpower plans. Traffic engineering is also an area in need of attention. Many major cities can't find four-year graduate traffic engineers even for $20,000 or more. Two-year graduates (traffic engineering technicians) are in great demand -- to assist, or to be active engineers in many areas. Four-year graduates often go into state jobs or consulting. Also, vehicle safety inspection work is increasingly emphasized and short of manpower. The aviation traffic field is also open -- for air traffic control work.

A trucking industry program has been started at Chicago City College. .. $10,000 for dispatchers and drivers, with free two-year college courses added on (all expenses paid). Vehicle inspectors will be trained for trucks and cars; and drivers' licenses will require periodic inspection. Search out the man responsible for your state, and offer him a community college program. Chances are he will want to work with you. If you are in a state capital, you have a special opportunity.

Recreation Leadership and Park Management programs are also growing. The curriculum has been developed at A.A. level; NRPA has the publication, held up in press. Write to Sidney Lutzin, Director of Programs, National Recreation and Park Association, 1700 Pennsylvania Avenue, N.W., Washington, D.C., for information on this. NRPA says manpower projections for the 70's and 80's are so great that the AAJC should concentrate on this. We plan to run a series of conferences around the country in this area. The first one will be held in Buffalo, N.Y., May 8 and 9.

Social Work. This area is being approached by the social work organizations first. The Counsil on Social Work Education is preparing a guideline, and will cosponsor regional conferences here, too. Public assistance is a big field.

Education for Public Service in general: There are great manpower needs in some branches of government work (ie., administration, etc.) which can be met at the A.A. level. We plan to work on this. We hope to encourage courses on community organizations, agency operation, etc. -- a core of courses aimed at government service, with spin offs according to local demands.

Issues: (1) Cost is not so great. (2) Equipment is not so important even for law enforcement -- unless you emphasize lab work. "Evidence technician" is a new program involving laboratory training. (3) Faculty -- Part-time faculty is available. (4) The acceptance problem, however, is a challenge.

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DISCUSSION

Q: Are there any associate programs in urban planning?

Stinchcomb: There are, in a few localities.

Mehallis: One other problem is proliferation in training, especially in law enforcement. We have four tax-supported law en-

forcement training programs in Dade County -- Police and Sheriff's academies, the public schools, and ours. The Junior College will eventually have the total program.

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ADDITIONAL DISCUSSION AT EAST LANSING

John Grede: Chicago City College had a police program fifteen years ago, dropped it, then started it again. Now we work with the police academy which sends trainees to City College for (5) behavioral science courses. It is a long program .... We should not insist on a two-year mold for such programs.

We now have a counselor aide program, with social work agencies cooperating. A core curriculum would be very difficult -- government programs are too diversified.

Toledo, Ohio representative: Toledo is starting a college level law enforcement program, and we had so many registrants we had to cut off enrollment. Toledo is making one year of college as minimum requirement for police....

Over 3,000 New York policemen are now going to schools. Their salary now goes up to $11,250 maximum for patrolmen in New York.

Q: What about the core program? Is it feasible?

Stinchcomb: Certain common threads that can be taught are: Government, social issues, social legislation, social agencies, and their interrelations. In Minnesota, the state plan adopted was to offer generalized public service courses first. Law enforcement and other specialized areas come later....

A core program would help our relations with government people and agencies, in my opinion.

Clarence Knight (St. Clair Cty. CC, Mich.): Is any credit given for certified police academy training course? In other parts of the country?

Stinchcomb: Yes, but this is a nightmare. Community colleges are asked to respond to training deficiencies. The colleges should give credit only for police courses which they supervise and for which they are responsible. Blanket credit can be very dangerous. In the future, I believe, community colleges will give the police training.

Grede: We blanket in the Police Academy program in Chicago -- but with safeguards. Lines tend to get blurred - and this is O.K., in a way, for it makes for closer relations.

Joe Sargolis (Hagerstown JC, Md.): What about the 20-year-old graduate who cannot enter the police force until he is 21?

Stinchcomb: General Hershey usually takes care of this. But the real answer is a work experience program. This is better than the old cadet programs where supervision was poor and cadets got only the dirty work. Work experience works young graduates into the police force, and makes them more acceptable to the existing staff. We need guarantees of employment, and this is natural. Some cities do hire now at ages 19½ and 20 -- for limited responsibility, up to the age of 21.

Phil Gannon (Lansing CC, Mich.): Is it possible to graduate law enforcement people to difficult levels of employment -- as we do nurses?

Stinchcomb: Job descriptions have lagged in this area. It should be possible, but it hasn't been done.

Gannon: The college has to be very careful about public service programs, to see if they are tied in with local agencies.

Stinchcomb: We try to encourage teaching of principles, not detailed tactics of law enforcement. For example, few police officers know the history of Anglo-Saxon law. They need to know it, to realize they are agents of the people.

Grede: The ladder concept is a useful one. Do we have a place for those who can't handle the two-year programs?

Stinchcomb: The certificate program, generally, does not last; it attracts in-service people, but the tendency is to ask certificate holders to go on to get an A.A.

The certificate may be O.K. at local level, but it is not a permanent answer. There is no substitute for an A.A. program in public service.

* * *

NOTES ON OUTSTANDING OCCUPATIONAL PROGRAMS
(as reported by the colleges)

Mehallis: Women's occupational training is being developed at Miami-Dade; Fashion models -- "for beautiful dumb blondes" -- was started with forty students. Today it has 260 aspiring models. An annual fashion tour is taken to Europe, with 30 girls covering fashion houses in Paris, Rome, etc.

L. N. Donnell (Brevard JC, Fla.): We have eight sections in our course on "Quality Control and Reliability" which is closely related to the activities at Cape Kennedy.

Edward Kotchi (Broward Co. JC, Fla.): Hoke Institute was formed on campus for all police training in the county -- a complete lab, etc.

Jos. Scarlett (Catonsville CC, Md.): Our program in Fire Service Technology had 113 students in the Fall. Classes are run in sections, to provide training for different shifts of firemen.

Charles Powell (Connors State C, Okla.): Chemical technology courses have been worked out with oil companies -- they pay the students' costs, starting next year. The problem is to recruit students willing to take 28 hours of chemistry.

Professor Kurth (U. of Florida): Our teacher training program relates to all parts of the University. Students can come to the College of Education for an M.A., with specialization in their own areas. We are getting a high degree of cooperation from all colleges on this.

J. D. Southern (Richland Tech. Inst., S.C.): We started a recreational therapy program with some success.

Jerry Alderman (South Georgia C, Douglas): Our police program is an outstanding success. A retired FBI man is in charge. We anticipated 40 this year, but we have 70 and will probably have 100 in the Fall, or 10% of our 1000 students. Also, our teachers aide program, in the non-credit area, is very successful.

W. A. Haines (Allegany CC, Md.): On our new campus next Fall, we will start a forestry technology program in cooperation with the paper and pulp industry, and with W. Virginia U. at Morgantown. Also, a dental hygiene program is projected.

Kenneth Taylor (Northwest Alabama State JC): Our program in forest production and harvesting is a response to industry's need. A professional forester teaches forest management, and also measurement and survey work.

J. B. Sutton (Santa Fe JC, Fla.): We have started an air pollution technology program. We are the National Junior College Center

for this; we provide training in survey and sample techniques, on air pollution. We are also working with the high school in joint counseling programs. We stress communication skills, a "sheltered" shop system for occupational education students .... We are developing a cardio-vascular lab technician program, originating with requests from the doctors. A multi-phasic medicine laboratory technique program is also being developed, emphasizing preventive medicine, and the use of computers in diagnosis.

A. H. Giffin (Edison JC, Fla.): We have made a joint effort with industry in an aircraft pilot training program sixty miles from our campus.

Milo Van Hall (Alfred Agric. & Tech. C, SUNY, N.Y.): Our supermarket management program, called "food distribution technology," is very successful. So is our "Audio-visual technology" -- photography, printing and graphics for technicians, and for aides in schools.

D. Dale Rhodes (Harford JC, Md.): Our certificate program in computer programming -- with four 7½ week semesters -- works well. Student selection is important here .... We have "Project Transition" for boys leaving the services, with programs in police science and other fields being developed. We have 16 college programs that serve high school students from eight schools. This high school work serves as orientation training .... We have one program from 1:30 to 3:00 A.M., for workers in the Bata Shoe Factory.

C. J. Collum (Lee C, Tex.): We have over 1000 inmates in our programs in correctional institutions, and our next phase will be a program for the guards.

D. Robinette (Southeast CC, Ky.): We have a special program for technicians in highway construction for the state. It covers a three-college area, to avoid duplication.

J. D Briggs (Texarkana C, Tex.): We have added police technology and air technical programs this year. Also 13 non-credit courses, in quality control, basic education, etc. We have 300 students in the basic education program, reading at the 6th to 8th grade levels. We developed a special center for this work in an abandoned railroad building.

G. E.Burson (Northern Oklahoma C): We found a need for court reporters, and the state regents delegated this function to the two-year college.

L. Morley (Gulf Coast JC, Fla.): We kicked off a home management program with a marriage and modern living course, and got 120 students on campus and 28 in a church. We also held a seminar on water and waste on campus this summer.

Walter Graham (Southern Union State JC, Ala.): Our fire training course has reduced insurance rates two points in a neighboring area. We also have a police non-credit course with 30 to 50 students.

Traffic and riot control, drug control, etc., are included in this introductory course, taught in five sessions.

Neil Edds (Independence JC, Kans.): We have lost two programs. But we are trying to adopt a cooperative work and study program, involving two colleges close together.

____ (Ranger C, Tex.): We have no programs yet -- that's why I'm here.

____ (Central Florida JC): Our innovation is a computer science course in Fortran language, featuring problem-solving. We have a working arrangement with the University of Florida for the use of their computers.

C. Murphy (Central Florida JC): Agricultural technology draws well on our campus -- horse raising is big here, too. Radiological technology is also taught, for industries dealing with nuclear materials, such as nuclear shipbuilding. We have no difficulty placing graduates. There are only seven such programs in the country. Federal funds (USPHS) underwrites the costs.

Collum (Lee C, Tex.): We also bus in high school students. And we are signing contracts with Humble Oil and Dupont and others for industrial training.

William Ceely (Lake City JC, Fla.): Our park management program is doing well. One area of our wooded campus is devoted to it. Cosmetology for women is also very successful.

F. Atherton (Webber C, Fla.): We are trying to improve secretarial training by using a simulated office.

Charles Atwell (Palm Beach JC, Fla.): We have a dental health program in three parts, with a team approach. We have a dental clinic on campus, jointly with the county health department.

Bill White (Indian River JC, Fla.): We are taking a systems approach in all programs -- a media approach, with all types of media, especially in occupational programs.

Paul Thorne (North Florida JC): We have a new certificate program in floral design.... Data processing technology, using the equipment of an outside company, is our most successful program.

* * *

GENERAL DISCUSSION

Q: How do we overcome limitations in our training programs?

Skaggs: Massive programs needed to fill the total needs of students for jobs, are the answer, plus continuing orientation on this objective to the community.

Collum: Industry pays our students' costs in many programs. Is this a trend?

Skaggs: Only in individual instances -- too few to make a trend.

Fibel: A more prevalent practice is rebates -- Companies pick up the tab for the students' expenses.

R. Strahan (Lee C, Tex.): How many colleges are involved in programs for hard-core unemployed, in which companies agree to take one, two, or three per cent from this group? We are beginning to work on programs of this type.

Mehallis: We are working on this, too, but we can't seem to find out what skills business wants.

Strahan: We are up against inflexible personnel standards, too.

* * *

SUMMARY REMARKS

John Orcutt, AAJC/PWDI: I would like to emphasize five things:

1. A college cannot function in a vacuum. We must work with other colleges, community, and state.

2. We have to decide what is relevant to our own campus situation.

3. We must take time to develop programs, and not move too fast. Just because someone says a program is needed, we cannot necessarily put it together in a week or a month. We must state our time needs to all concerned.

4. All AAJC and USOE officials wish to work with you on programs you need in your institution.

5. Don't forget that your representatives in local, state, and other government agencies can also assist you.

* * *

CAN THERE BE A NEW APPROACH TO OCCUPATIONAL EDUCATION?

by Dr. Joseph Fordyce, President,
Santa Fe Junior College, Florida

(Excerpt from the luncheon speech given at the Gainesville Workshop on February 14, 1969)

A comprehensive college is not simply additive -- It is a conglomeration, each of its parts affecting all the others....

We believe that:

(a) All students are occupational;

(b) Students should be offered a "hands on" situation -- a protected work center -- so thaty can make meaningful choices. The counselors must have the background in occupational education.

(c) There must be an open-ended curricular choice. If choices are open, manpower needs will take care of themselves. The primary objective is to help the individual to develop to the utmost.

(d) The whole campus should be involved in occupational programs.

We have tried to implement these beliefs at Santa Fe Junior College....

NEW TRENDS IN COMMUNITY COLLEGE VOCATIONAL EDUCATION

by Dr. Albert J. Riendeau, Special Assistant for Organizational Relations, Bureau of Adult, Vocational and Library Programs, U. S. Office of Education, Washington, D. C.

(Excerpts from the dinner address delivered to the AAJC Program With Developing Institutions Workshop on Occupational Education, University Inn, Gainesville, Fla., February 14, 1969)

An often repeated axiom, but worthy of repetition, is the inevitable impact of change on our lives, and what this means for the next generation in terms of education. By examining a few statistics, the events with which we, in this room, will soon be coming to grips, stand out more boldly.

The Bureau of Census has estimated that by the turn of the century, the American school population -- ages 5 to 24 -- will exceed 125 million. Compare that with the present figure of some 70 million and we get an idea of what lies in store for the schools and colleges during the next three challenging decades.

The experts would have us believe that by 1980, at least 60% of all young people in the 18-21 age group will be attending college. And this may be a very conservative estimate. A recent survey revealed that 81% of the 18-21 age group in California enrolled for at least one term in college.

Another important consideration is that the student of tomorrow will be different from the student of today. He will be the product of a new society, a new environment, a new era. Traditional methods of education, once tried and true, will not necessarily be sufficient to educate the student of tomorrow. His needs will call for new approaches that produce educational results to meet new world demands. For there is one conclusion we can state with absolute certainty: The world of tomorrow will be different, far different from anything we know and experience today.

Any consideration of future trends must also consider the people who will be affected by these trends. The world's population is presently estimated at 3 billions. In all of recorded history, the world has never had so many people alive at one time on earth. Now the demographers expect this total number of the world's population to be doubled by the year 2000 A.D. Adjusting the world for twice as many people as we have today during the next thirty years somehow sounds incredible to me -- but let's assume they are off target by a few percentage points, the increase is still a staggering figure.

The computer is credited as the pacemaker for speeding up social change. Science and technology, with the help of the computer, has triggered the knowledge explosion, which is increasing at an estimated rate which amounts to doubling every ten years. A television commentator recently reported that 15% of all goods and services produced and marketed in the United States in 1968 did not exist in 1967.

While all things do not become obsolete at the same rate, the implication here is that the obsolescence rate of skills, ideas and information is indeed increasing at a startling pace.

Although less than 25 years old, the modern computer is responsible for ushering in the aerospace age. As a matter of fact, no field of research and development has escaped the impact of computer techniques. Supermarket inventories are maintained by computers, financial transactions, and particularly banks are increasingly dependent on computers. Computers are used by the FBI, by meat packers for a variety of functions including the determination of proper mixes for sausage-making, and by hospitals for menu making. It is estimated that there are over 50,000 computers in the United States today; some are three times as powerful as the best machines of 1965. Foreseen for the 1970 era are computers three thousand times more powerful than anything available today.

Since education is fast becoming the largest single industry in the U.S., the computer will continue to play an important role in it. We now have its application for flexible scheduling, ungraded classes, and how it has revolutionized the business operation of the schools. Pocket sized computers tied into world wide communications via satellites are predicted for the future.

It can be said that we are caught up in a giant tidal wave of accelerating change which shows signs of increasing as we go along. Educators and other professional persons who deal with people are being called upon to play a greater role in shaping our unfolding world. They must learn how to think and behave quite differently because some traditional values will have lost their relevance and other values that are fulfilling for the new age must be found.

I submit that there is one constant amidst the many variables of facts and fancies as we peer into the future and that is -- that many must adapt to change even though the change is drastic. This is not a new concept since evolution and revolution have both shaped history. But the change I see taking place will be evolutionary, bringing with it an excellence and style -- a result of the best in creativity.

Educators and particularly administrators, must be willing to stand aside lest they inhibit the generation of new ideas by teachers and students. For to be creative, education need only set the stage for change and creativity -- that human reaction to a changed condition -- will take place automatically. In this exciting era of innovation, the astute administrator will recognize the futility of interfering with the learning process. Wasn't it Victor Hugo who said: "There is no army great enough nor any force strong enough to stop an idea whose time has come"?

One of the finest examples of creativity and evolution is the development in America of the two-year comprehensive college which is answering the needs of a pluralistic, technically-oriented society. These are swinging into action at the present rate of one new college each week. While the high school was considered the final educational

experience for most citizens two generations ago, the junior or community college has now taken its place. This new institution is providing the extra step in opportunity for those who recognize that the knowledge and skills provided by the secondary schools is no longer adequate to meet the needs of a highly mechanized America.

In order to study the role of vocational education at the two-year college level, let us briefly consider the educational experiences which have led the student to this new level. Since the typical comprehensive high school is rated by its college-bound versus vocational student graduates, it is highly unlikely that vocational education shared in the limelight usually accorded "prestige" courses in high school. As a matter of fact, the educational institutions receiving the most Brownie points have traditionally been those with the best admissions systems -- "by selecting the best, they turn out the best." So while the American educational system stoutly claims to endorse the philosophy of "education for all," it has had a built-in, selecting-out mechanism that tends to squeeze out the student who fails to become enraptured by the works of Chaucer and Shakespeare in high school. The "selected-out" student failed to associate school with the real world, for in his world there is a job, a paycheck, a car to strip down, or high fidelity sound equipment to assemble. Irrelevancy of school work or the inability to see something meaningful in terms of the real world of students is most often given as the greatest single reason for dropping out of school.

Nor is the community college completely without sin in this respect. U.S. Commissioner of Education, Harold Howe II, in a recent tape-recorded conversation shortly before leaving for his new post in India issued the warning: "There is a tendency among community colleges to see as the basic measurement of excellence the movement of a very high proportion of their graduates into four-year institutions. It seems to me that we need to help the community colleges to develop a concept of excellence in other sorts of services and to take pride in them."

It has been noted that some of the community colleges are trying to lose their identity as vocational and technical education institutions and to transform themselves into four-year colleges. This is unfortunate in most cases because the real need in the years ahead for the majority of Americans will be for expanded opportunities at the two-year post high school level.

And so we have some areas of concern in the educational establishment, just as we should expect to have as we adjust our role to the changing demands of society.

At a meeting of the U.S. Office of Education Executive Group on January 2, 1969, Associate Commissioner Grant Venn raised what he suggested should be the most important question of the new year: Education for what? He proceeded to list some facts, some of which were disturbing:

1. Approximately 50% of the American people over 25 years of age

have not graduated from high school.
2. Sixty per cent of our work force is engaged in non-productive work.
3. There are more students enrolled in continuing education and other training than all elementary, secondary, and higher education students put together.
4. We have the highest youth unemployment rate of any of the free countries.
5. Our greatest need for know-how is in the technical and sub-professional activities.
6. There is little evidence of youth involvement in meaningful education other than through work experience, cooperative education, and voluntary student activities.
7. Education's first loyalty is still to those who excel in the academics.
8. Space utilization of our schools and colleges should be carefully examined. Can we increase space use by expanding the school day? the week? the school year?
9. Providing a learning environment is only part of the job, we must also concern ourselves with student problems of health, success, reward, relevance, money, dropouts, poverty, and areas of manpower shortages.

If these points for discussion are indicative of an aroused educational leader, it can also be said that the 90th Congress was an aroused Congress. For contained in the Vocational Education Amendments of 1968 is a clear mandate to our schools and colleges. It says in effect: The problems of urban decay , area poverty, persistent unemployment, unemployability, mental illness, delinquency, and the many problems of the great cities are associated with irrelevant education -- now get with it and make education meaningful for all students. This Act implies that it is inexcusable that students see so limited a relationship between the classroom and the real world. "How can we rejuvenate vocational education so that it will be relevant not only to the jobs of today but to those of five and ten years from now?" asked President-elect Richard Nixon in the January, 1969 issue of the NEA Journal.

Let us consider some of the salient features of this new Act, also known as P.L. 90-576. Not only is it designed to strengthen existing programs, but it provides for new ones aimed specifically at equipping slum youths, disadvantaged youths and adults, and handicapped persons with both employability and job skills.

The Vocational Education Amendments Act of 1968, I believe, provides ways to bring about some needed changes in our school and college programs by helping the "hard-to-reach" and "hard-to-teach." For one thing, it authorizes more than double the current appropriations for the regular State grant programs, making possible great expansion of vocational education programs and a good start on many new programs. These grants are generally on a 50-50 matching basis.

Another important point: the new Act authorizes $40 million in additional funds for fiscal years 1969 and 1970, for special pro-

grams for the disadvantaged. No State matching is required for these programs which are designed for persons who have academic, socio-economic or other handicaps that prevent them from succeeding in the regular program.

In addition, beginning with fiscal year 1970, emphasis on vocational education programs for the disadvantaged, the handicapped, dropouts and youthful unemployed is assured by earmarking specific percentages of State allotments for these purposes. The 1968 Act also makes provisions for constructing and operating residential vocational schools for youths 15 to 21 years of age. It authorizes funds to be used by the Commissioner to make grants directly to State boards, colleges and universities, and public education agencies for this purpose. In addition, it authorizes the States to plan, construct and operate residential vocational education facilities -- with the Federal share of the cost set at a maximum of 90 per cent. By taking disadvantaged youth out of their slum environments, residential schools could effectively train them in both employability and job skills in an atmosphere conducive to learning.

The new legislation also authorizes appropriations for cooperative vocational education programs. Such cooperative work-experience programs offer many advantages in preparing young people for employment.

The Act also authorizes funds for work-study programs. These will enable schools to give needy youths taking vocational education and unemployed youthful dropouts enrolling in vocational programs part-time employment in public institutions or agencies.

One of the new Act's most important features, in my opinion, is the Exemplary Programs and Projects provision which authorizes some $222 million in the next four years for pilot programs and projects. Half of this sum may be used by the Commissioner to pay all or part of the costs of projects that will create what the law calls "a bridge between school and earning a living for young people, who are still in school, who have left school either by graduation or dropping out, or who are in post-secondary programs of vocational preparation."

Dr. Leon Minear, Director of Vocational Education in the Office of Education and former State Superintendent in Oregon, in referring to P.L. 90-576, said: "From the standpoint of encouraging creativity at the local level and bringing vocational education in line with societal needs, this is the greatest single piece of educational legislation ever passed by a Congress." Because of the State and local matching requirements of much of this Act, the total impact on American Society will be difficult to measure. The intent of Congress in passing this bill was that it would indeed have an impact -- that it would make a difference in terms of total educational effectiveness.

The innovation suggested by the Act is concerned with the introduction of something new. It might be a grand scale attempt to solve a critical skill shortage, such as teaming up with the automobile industry to train repairmen and technicians needed to keep the millions

of new cars in running order, or an effort to solve a relatively unsophisticated local problem. The questions which are sure to come will be: What difference has this made to youth and adult unemployment? To the dropout rate? To the unfilled jobs having no trained and skilled applicants?

As I glance once again at my crystal ball, I see signs which point to trends for the near future. While some are more obvious than others, permit me to share a few of these trends with you:

1. All persons will soon have an opportunity to acquire occupational training leading to gainful employment.
2. Education will soon be increasingly personalized for each student; individualized instruction will be the order of the day.
3. Youth will soon be involved in the real activities of society through cooperative education which calls for close collaboration of business and industry with the community college.
4. Occupational education will start in junior high school -- backed up by pre-vocational education in the elementary programs. This will be accomplished by the close cooperation of teachers, counselors, and parents.
5. Curriculum will soon be organized in instructional packages with every student acquiring the essential tools of learning in reading, writing, arithmetic, spelling, and the development of acceptable common courtesies, such as friendliness, helpfulness, and empathy for others. Ability to get along with associates will be stressed.
6. The short school day is fast fading away. Classes from 7:00 a.m. to 10:00 p.m. for young students and 6:00 p.m. to midnight for adults, will soon be common practice in the community colleges. Saturday classes are already offered on many campuses.
7. Students will be involved with teachers and administrators in the construction and changing of courses.
8. On-the-job experience of approximately 100 hours will be required of all students before graduation from most community college occupational programs.
9. Networks of knowledge through expanded library facilities and systems will be available to all who desire this service.

.... As new knowledge is discovered, new trends are implied for educators. We, in the community colleges, are being called upon to keep our minds actively seeking and searching for ways to make it a better life for all students. And this isn't bad, for life is more fun when it is lived with zest and vigor -- and what could be more zestful and invigorating than keeping up with the trends in community college vocational education during the next few years?

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ALBERT J. RIENDEAU: A Biographical Sketch

Albert J. Riendeau served three years as Dean of the Engineering Technology Division at West Valley College in California before coming to the U.S. Office of Education in June, 1968.

Prior to that, he was a research associate with the School Planning Laboratory at Stanford University, where he earned a doctorate in 1965. He has served as consultant to such firms as Booz, Allen & Hamilton, Inc. (Chicago); Stanford Research Institute; Arthur D. Little, Inc., and the U.S. Office of Education. In April, 1968, at the invitation of the Mexican Ministry of Education, he served as a member of a three-man team of American educators who evaluated Technical institutes in three provinces of Mexico. He has been asked to serve again in the same capacity in March to evaluate schools in Yucatan, Mexico.

Dr. Riendeau is currently Special Assistant to the Associate Commissioner for Organizational Relations and Community Colleges. Dr. Grant Venn, Associate Commissioner, Office of Education, announced the week of this talk that Riendeau was soon to be Chief of the Exemplary Programs Branch which is being activated under terms of The Vocational Education Amendment Act of 1968.

He is the author of the AAJC 1968 "best seller" -- The Role of the Advisory Committee in Occupational Education in the Junior College.

* * *

THE NECESSARY INGREDIENT

by Dr. James L. Wattenbarger, Director
Institute of Higher Education, University of Florida

(Excerpt from the luncheon speech given at the Gainesville Workshop on February 15, 1969)

Christopher Morley said that there are three necessary ingredients for life, and they are: "Learning, Earning, and Yearning."

Our necessary ingredients are many. To name a few --

1. Faculty
2. Students (we have all kinds)
3. Facilities and equipment
4. Program of studies
5. Adequate financial support
6. Appropriate counseling - from elementary school on. We often have to fight high school counselors, parents, and students to get them into occupational programs.
7. Clarity of purpose. Occupational education should be designed to fit a student for an occupation. (And mobility, for jobs change rapidly.) Transfer should not be a major factor. The time is coming when <u>all</u> junior college training will be acceptable.
8. Leadership
9. Creativity. Students must be given tools for self-renewal.
10. Commitment -- to provide each student with what he needs.
11. Evaluation. All programs require this, for improvement.

The necessary ingredient, therefore, is <u>any one of these that has been left out</u>...

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P A R T I I

WORKSHOP ON OCCUPATIONAL EDUCATION

The Kellogg Center for Continuing Education
Michigan State University
East Lansing, Michigan

February 21-22, 1969

Sponsored by:

The AAJC Program With Developing Institutions
and Occupational Education Project

in cooperation with

The Kellogg Center for Continuing Education, M.S.U.

(Supplementary discussion not included in PART I with
the Gainesville Workshop notes, and speeches at the
East Lansing Workshop)

PROGRAM

WORKSHOP ON OCCUPATIONAL EDUCATION IN THE JUNIOR COLLEGE
AAJC Program With Developing Institutions
The Kellogg Center for Continuing Education, Michigan State University
East Lansing, Michigan, February 21-22, 1969

Friday, February 21:

9:00 A.M. - Opening Session: Moderator - Philip Gannon, Pres., Lansing CC; Welcome -- Selden Menefee, Director, AAJC Program With Developing Institutions
OEP Panel Discussion:
Planning for Occupational Education -- Kenneth Skaggs, AAJC
The Role of Advisory Committees -- Lewis Fibel, AAJC
Community Involvement -- James Stinchcomb, AAJC
Cooperative and Work-Study Programs -- Gilbert Saunders, AAJC

10:45-12:15 - Health-Related Programs -- Kenneth Skaggs, Chairman Discussion.

12:30 P.M. - Luncheon Speaker -- Dr. Max R. Raines: "The American Community Junior College"

1:45-3:15 - Science and Engineering Technology Programs -- Lewis Fibel. Discussion.

3:30-5:00 - Business-Related Programs -- Gilbert Saunders. John Grede, Reactor. Discussion.

5:00-6:00 - Visit to Lansing Community College
Frank A. Benedict, Host

7:00 P.M. - Dinner Speaker: Dr. Grant Venn, U.S.O.E.: "The Dynamics of Technology and Society: No Compromise with Ignorance"

Saturday, February 22:

9:00-10:30 A.M. - Public Service, Law Enforcement Programs -- James Stinchcomb

10:45-12:00 - Feedback: Reports from the colleges, and general discussion of all programs. Consultants on Firing Line.

12:00-12:15 - Summary Remarks -- Shafeek Nader, AAJC/PWDI

12:30 P.M. - Luncheon Speaker -- Professor Norman C. Harris: "Liberal Learning in Technical Education."

DISCUSSION OF PLANNING AND COORDINATION

East Lansing Workshop
February 22, 1969

Phil Gannon: One of the key issues today is the relationship between area vocational schools and community colleges on occupational education. The heat comes because millions are being allocated for plants and programs which may overlap in some areas -- like Lansing. Where do we go by 1975? We must submit a state plan by July 1, under the new law. We must decide.

Kenneth Skaggs: We do not wish to over-emphasize associate degree programs. There are many short-term and specialized types of programs which are equally useful -- once we break with tradition and move in less conventional ways. We must not tie ourselves too rigidly to the old calendar (including summer vacation). Some of our programs are one-year (or less), like dental assisting and certified laboratory assistant; and many programs take over two years.

Financing: Florida funds for occupational education programs fully, at 1½ times the rate of the academic programs. (North Carolina does well, too.) Many other states do not give adequate funds for such programs.

Planning: The lead time in developing most occupational education programs should be at least a year. "Instant programs" are dangerous.

* * *

Q: What about the smaller school? What kind of programs are related to national demands, that we could put in locally to serve students?

A: First, survey the local industry, then the demands from outside your locality for trainees, then the students, to see if they would buy the program.

Q: We plan to bring students in, even across state lines, to be sure we have enough students. Is this common?

Nathan Breed (Parkersburg Center, W.Va.): We have been crossing state lines in identifying need for programs. We must work with both state and Federal agencies.

Robert Force (Garden City CC, Kans.): We have pilot training and irrigation technology programs -- the latter is one of only three in the United States, and students come in from outside to take these. We are also in a Kansas-Nebraska Consortium, assigning programs to colleges on a non-overlapping basis in the health-related area.

John Spencer (Lassen C, Calif.): There is a voluntary association of six or seven colleges in Northern California, to plan for

non-competetive occupational programs. It started with vocational agriculture, but has spread to other fields.

Saunders: The Northern California consortium set up by San Joaquin Delta College has a full time coordinator who serves as a buffer between colleges and state. This works well.

Michigan State official: There is a similar arrangement in Southern Michigan. In the upper peninsula, two colleges are working with those in Northern Wisconsin. The only problem is the legislature, which wants to restrict enrollment from out of state.

Robert Zimmer (Kankakee CC, Ill.): One problem is, you move away from local control toward state control, if you try for unique programs on a planned basis. Another problem is, you may need dorms if students come in from outside in large numbers.

Walter Bunnell (Sinclair CC, Ohio): We belong to a consortium of eleven colleges, of which we are the only community college. The University of Dayton is included. We have three meetings a year with the business faculty, and we use the University of Dayton's computer facility. We also exchange library resources with other colleges.

____ (Morton C, Ill.): We have a library technical assistant program. We offered it to students of other colleges, but had no takers. We exchange films with neighboring colleges.

____ (Illinois): Seventeen community colleges in Illinois came together to discuss the health field and formed an association to continue meeting four times a year. We would like to break down geographical barriers.

John Grede: We at Chicago City College are interested in voluntary planning. Some colleges in our area have planned eighteen new programs in a single area. We have fifteen community colleges around Chicago. We can have a commuter exchange of students, allocating rare programs to one place, or another. But we have yet to reach an agreement on this. In Metropolitan groupings, such as the Chicago area, such agreements must be reached.

Phil Gannon: Let's have a show of hands on the type of coordination you think is needed. (This was done.) Most are for area coordination in planning occupational education programs. No one is for state control, or Federal control.

Michigan State official: Too many community colleges don't know what programs exist. The state can be a clearing house for information on this. Use us.

C. MacDonald (Central Oregon CC): We are 128 miles from the nearest college. We have a 10,000-square-mile school district. One of our programs is forestry. Also, a strong electronics program. We train the students to leave the area and get jobs. These people

have no trouble getting jobs. (Some graduates did establish a small electronic assembly plant in Bend.) You have to look outside your own community in planning occupational programs.

Dennis Hawkes (CC of Delaware Co., Penna.): We in the Philadelphia area meet informally to discuss articulation and avoid overlapping. (Example: One college planned to put in inhalation therapy, just when the university nearby was dropping a similar program. So a costly mistake was avoided.)

Donald J. Welsh (Metropolitan JC, Mo.): We are working with other colleges, and with the Veteran's Hospital for the use of facilities for health-related programs.

Gannon: We either coordinate our efforts voluntarily, or someone will do it for us. Let's face it.

Q: What about urban programs for minority groups?

Kenneth Cerreta (Lassen C, Calif.): In California, Indians have grouped together to improve education. They plan a summer conference for elementary teachers on the culture of the California Indian -- We have to wake up to our responsibility.

Tom Deliganis (Laredo JC, Tex.): Adult basic education plays an important role in educating Mexican-Americans. We have a big basic education program.

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SESSION ON
OUTSTANDING PROGRAMS
(East Lansing Workshop)

I. HEALTH-RELATED PROGRAMS:

Kenneth Skaggs: Health programs are passing from hospitals to schools, like diploma nursing programs, and many others. But - the college and hospitals often coordinate their efforts, to supply local needs.

- At Amarillo, Tex., the educational health programs are centered in the community junior college, but outside facilities are used. An Allied Health and Medical Education Building is planned at Amarillo Hospital for these programs.

- St. Mary's Junior College in Minneapolis, is also involved with St. Mary's Hospital in training programs.

- Miami-Dade has a donation of ground from Mt. Sinai Hospital, to set up a common program there.

- Chicago City College, Crane Campus, is supplying classroom training with Cook County School of Nursing.

* * *

Merill Berg (Lake City JC, N.D.): Are there any allied health programs suitable for rural community colleges?

Skaggs: Yes. It is beginning. Especially in the West, in areas of sparse population, programs are shared. Somtimes attendance at two or more colleges is interchangeable, to get parts of their training.

Q: Is speech therapy being done anywhere?

Skaggs: Not much -- but there is growing interest. It is mainly done in four-year colleges.

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II. SCIENCE AND ENGINEERING TECHNOLOGY PROGRAMS:

Lewis Fibel: One of the most interesting developments I know is a single-purpose institution -- The Fashion Institute of Technology in New York City. It is specialized, but has a good general education program -- including a course in "Personal Grooming and Poise" -- which is eagerly sought after, and used as a reward.

Also, it has cooperative programs with the art museums -- and industry. It has a subsidy from the industry.

This school has residential facilities. It is a delightful place to visit, and not simply because you see many pretty girls there. It is a happy, noisy beehive of activity.

The clothing industry provides many part-time instructors, and the school has sent consultants to Israel and Mexico .... Why couldn't a specialized institute like this be sponsored in the automotive industry?

* * *

Q: What about unions? Do they hamper such programs?

G. Boroff (Lansing CC, Mich.): We have found that union and management interests both have much in common... They have need for better people in industry. Education can work with both parties to fill needs for manpower.

We have one-year programs to make men employable -- but you cannot put them in skilled jobs without the cooperation of the unions.

We can also assist unions by organizing consumer education classes for labor groups, at their request.

We need not antagonize unions. You should consult with them on your plans for development.

Phil Gannon: Flint Junior College is offering courses for labor unions at the junior college level. Labor unions will often contribute money and equipment for such courses.

Norman Harris: At the technologist level, students often run into obstacles with unions in heavy industry.

Gannon: You need to know your community -- and know your local labor officials -- in order to bridge the gap. We should avoid making moral judgments.

Q: Could the engineering technician be plugged in as a foreman?

Harris: Yes, he usually has management-related skills. It depends on the label management puts on the job. The best answer is to structure work and study into the training, which leads to A.A., plus journeyman status.

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III. PUBLIC SERVICE AND LAW ENFORCEMENT PROGRAMS:

James Stinchcomb: A new booklet entitled, Work Experience Programs in Criminal Justice, is being published by AAJC.

We in the community colleges can completely restructure the sources of manpower in the law enforcement area.

Law and corrections are notoriously inefficient at recruiting workers -- Our help will be needed. Work experience programs may be the answer. It will be a built-in recruiting device.

At Flint, Michigan, the Chief of Police (on our Advisory Committee) has a work experience agreement with Flint Junior College.

Robert Kehal (Community & Technical C, U. of Toledo): We have just started a two-year program for social work aides. We have 50 students, and they work in social agencies from the beginning.

Jack Flint (Kansas City CJC, Kans.): We are located near Leavenworth Penitentiary. We're working there with military people being discharged, to train them for corrections work.

A: We are working to upgrade black drop-outs to a point where they can qualify for police training. We are paying them $250 a month during training. (The money is from the Safe Streets Act.)

Michigan State official: We are developing a Maritime Academy for the Great Lakes, training deck officers and engineers to work on ships. We have a tugboat already.

N. Harris: Are there any successful teacher aide programs?

J. Snarponis (Hagerstown JC, Md.): We are developing such a course, based on the needs of the local schools. We'll be glad to send a paper on this to interested colleges.

Fibel: There are some 30 such teacher aide programs in existence. The most successful is at Garland Junior College, Boston. In five years they have trained many teacher aides for suburban Boston, but not for the city itself.

Norman Smith (Bucks Cty. CC, Pa.): We have such a program, mainly for women seeking employment, often at the nursery school level.

John Hawse (Illinois Valley CC): Our schools greatly need teacher aides in special education. Our school people see no problem in salary.

_____ (Thornton JC, Ill.): We have one-and two-year programs for teacher aides. One option is special education; others are library and teaching media. Our schools use teacher aides at the $5,000-6,000 level. It is accepted, and works well. (Some areas want to use aides at low cost.)

_____ (Morton JC, Ill.): We are also discussing teacher aide program with AFT.

They were hostile at first, but are coming around when they realize aides are no threat to teachers, but only help them. Aides do no direct instruction, but relieves classroom teachers of detail-work. Teachers want this.

_____ (Delta C, Mich.): Child training for the handicapped can use this program.

Stinchcomb: California junior colleges have teacher aide programs. Write to Mrs. Mary Denure, Public Service Consultant, Office of the Chancellor, Junior College System, 1507 - 21st Street, Sacramento, California 95814.

* * *

IV. BUSINESS PROGRAMS:

Gilbert Saunders: Supermarket Management is one of the prime new programs. Andy Korim in Chicago City College has such a program.

Computer capability without a computer on campus is also a useful arrangement. Cooperative arrangements are needed....

A placement office should be designated on each campus -- then talk to the industries in your locality, so they will understand the breadth of the programs we have.

_____ (St. Clair Cty. CC, Mich.): We are developing a joint agriculture-business-technology program, and we are getting into some agreement with the MSU Institute of Agricultural Technology (a two-year Institute). We will provide the first year of their ten two-year programs, as well as a two-year program of our own.

Gannon: MSU has many farm-related two-year programs -- on pesticides, and in other technical areas.

R. Allen (Navajo CC, Ariz.): We are a public-private college without facilities, established by an Indian tribe on a reservation. We will overlap three states.

We started January 1 of this year with 301 students. The regents decree we'll be 75% technical-vocational. Many students and one regent don't speak English. The average education of adults on the reservation is 3rd grade, and average income is $900 a year.

We need teacher aides, on basic English, and also information on all kinds of programs.

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SUMMARY REMARKS

Shafeek Nader, AAJC/PWDI: Common trends in community colleges' occupational education appear to be:

1. Changing goals -- We are less concerned with security, but with common goals with industry, government and labor - the whole community.

2. A college must look to its power base in the community. It can represent only the elite, or the whole community. A true community college must be relevant, and must respond to the whole community.

3. We have to think of planning as a process - rather, as building a static master plan.

THE AMERICAN COMMUNITY JUNIOR COLLEGE

by Dr. Max R. Raines, Associate Professor of Higher Education, Michigan State University, East Lansing

(An address delivered to the AAJC/PWDI Occupational Education Workshop at East Lansing, on February 21, 1969)

This is not a joyful occasion for several of us today. I find myself standing in for another Max who passed away quite suddenly on Christmas night. He would like very much to have been here this day. He was especially concerned about the development of occupational and technical education. He never failed to urge the appointment of a specialist in occupational education when our staff discussed its developmental needs. I sensed a feeling from him that if the University of Michigan could have a Norman Harris, then Michigan State deserved one, too. We miss Max very much.

At this conference on occupational and technical education, I have decided to talk about something else. First, I want to comment on the social revolution which you, men of technology, have helped to create. Second, I want to examine the evolution of the two-year college in a period of tremendous change. And finally, I want to identify some rather specific obligations which the two-year college has to its community.

We have known for a long time that technological changes would have a profound impact upon us as individuals. How, when, and to what degree were, until recently, matters of speculation. Now we find ourselves caught in the midst of a social revolution.

Two of our most venerable institutions -- the church and the university -- are experiencing agonizing stress. For generations, these institutions have sought to define truth for people; sometimes in concert, sometimes in dissonance. Never has their relevancy been challenged so loudly and so broadly. We find open rebellion in both institutions and we're not sure what it all means. To some, it is simply a floating cake of ice that will melt away in the mounting heat of academic or cleric disapproval. To others, this cake of ice is only the visible portion of a monstrous iceberg -- an iceberg of discontent and disillusionment that threatens to sink our "titanic" institutions. The outcome is not clear, but just as sure as the 1950's would have crushed the anarchist, the 1960's have seemed to sustain him. Some people will blame the university, some the church, many the Communists -- but all this will not help, because <u>blame</u> is not the fabric of solution.

When one analyzes the current dissension and rebellion, he realizes that the opposing forces have been on a collision course for a long time. For example, one cannot with any consistency extol the virtues of an egalitarian society while many are denied admission to an institution that has become a primary source of prestige (ergo economic power) in our society. At least he cannot do it at a time when an oppressed group is moving with militancy toward equal opportunity. The days of isolation and insulation for universities are over. In fact, they will have much to learn from community colleges.

Community colleges are in a position to chart a different course, for they are in the mainstream of social interaction. They are composed of students directly engaged in earning a living, relating to a family and interacting with the social and economic community. To them life is here and now. To be relevant, the teacher, the counselor, and the administrator need only to look up from his desk to listen to his students and to become part of his community. Let us turn for a moment to see how this has transpired in the development of the community college. For several years I have been characterizing the growth and development of the community college -- in a short historical caricature.

The pre-natal period for the junior college occurred during the latter part of the nineteenth century, with the actual birth taking place around the turn of the century.

Since all infants have parents, it occurred to me that the prestigious university was actually the institutional father of the public junior college. This fatherhood was most apparent in such institutions as Chicago, the University of Michigan, and the University of California. The desire to sire an offspring stemmed from an awareness that an aspiring son might take over a segment of the enterprise for which the university has held little enthusiasm -- namely, educating freshmen and sophomores. (In our caricature we shall refer to the university as Father U.)

Casting about for a potential mother, Father U. found one who was already pregnant (sounds like Peyton Place, doesn't it?). He observed that the Secondary School was beginning to establish post-graduate programs of a transfer nature. Subsequently, Father U. approached the secondary school whom we shall call Mother S. and said, "If you will cooperate with me we will give your child a respected name. We'll call him college. As a matter of fact, we'll even call him Junior. We do insist, however, that you consult with us on all important matters regarding Junior's growth and development."

Mother S. was extremely pleased (and relieved). She set up a nursery in the wing of her house. At all times she reminded Junior of his indebtedness to Father U. and also hoped that Junior would appreciate the sacrifices she was making on his behalf.

Junior grew rapidly and Mother S. soon recognized that if she were to keep Junior out from under her feet, she would either have to enlarge the nursery or find him a playhouse of his own. Once Junior had a playhouse of his own he quit playing school and began playing like he was a university. It was a most delightful fantasy and quite understandable, since Junior was reminded frequently to be as much like father as possible.

As Junior moved into early adolescence after the first big world war, he began to grow restless. Members of the industrial community began to talk to him about their needs for their expanding enterprises which were thriving in the roaring 20's. They were particularly concerned about young talented people who went off to the university but

seldom returned to their hometown to seek employment. Well, this was heady business for a young adolescent and he said, "Sure, I'll help."

Mother S. was considerably aggravated, when she learned of this. For one thing, she felt Junior was encroaching on her work, and it was apparent in some cases that he might be duplicating her efforts. Besides, she reminded Junior that he could never really be like his father if he kept "messing in things that didn't concern him."

Alas, a rebelling adolescent has a mind of his own, and he wants an identity of his own! Junior began to make such brash statements as "I don't see why I can't serve anyone who wants to come to my place!"

Somewhat exasperated, Mother S. decided to call Father U.'s attention to the problem. This resulted in a man-to-man talk. Father U. said, "Son, you're going to have to cut this career school nonsense, or you'll never accomplish what I have in mind for you."

Junior asked, "What do you have in mind, Dad?"

Father replied, "Well, son, if you stick with me, before long I might recommend you as a full-fledged <u>senior</u> partner in the enterprise. If you stick to your transfer program, and do a good job, one of these days I think I can persuade the board and the state stockholders that you have what it takes to become a <u>four-year</u> college."

Now this was something to contemplate -- so much so that it put Junior in a conflict with himself. About this time a big depression was sweeping the country and there weren't many job opportunities to fill. After several years of debate another big war broke out, and Junior found himself with virtually no students at all. I'm sure he must have said, "Gee, I guess Dad was right after all."

But when the Big War (called Number Two) was over, low and behold! Junior had more students than he could handle! Suddenly he realized that he was moving out of his adolescence, and that people in the community were beginning to depend on him.

Feeling his alliance with supporters in the community, he began to refer to himself as <u>Community</u>-Junior. This did not mean that he was rejecting his given name or that he was unappreciative of his heritage or responsibility to Father U. or Mother S. It simply meant that the time had come to establish his <u>own</u> identity. He was beginning to glimpse the unique contributions which he might make to society.

Now we all know that finding one's identity is no bed of roses. It is one thing to claim adulthood; it is another to live up to the full measure of adulthood. Certainly a child must forsake his father fixation, but not lose his respect for father. He must also learn to venture out on his own, but not lose appreciation for mother. At the same time he cannot assume that mother and father will neces-

sarily endorse everything he does. He has to overcome his sensitivity to criticism; he must develop a tolerance for ambiguity and conflict within his own personality. He must recognize that freedom is not bestowed as an external gift but is a state of mind achieved through responsible action and through responsiveness to the needs of one's fellowman. In adolescence he may bask in the glories of his potentialities, but if he wants full-fledged adulthood he has to produce.

The community college is most apt to retain its identity in our society and to make its maximum contribution -- by focusing upon the needs of the community which it serves, by making its resources fully accessible to the community, and by developing a climate which is truly responsive to the personal growth and development of individuals who accept the open invitation.

If we examine the value context in which public education operates, we find a commitment and concern for four values: (1) personal self-realization, (2) equal opportunity, (3) civic responsibility, and (4) economic efficiency. In fact, these values have been expressed at different times in the form of goals for public education. (Sometimes it seems that taxpayers have heard the message only on the value that stresses economy.)

There are some traditionalists who would say that a community college will best express its commitment to these values by offering an assortment of transfer and technical curricula and by maintaining a policy of non-selective admissions. But in the midst of a social revolution, a passive policy such as this is not sufficient. A genuine commitment of personal self-realization to equal opportunity and to civic responsibility means being out there where the action is, and doing things with people where they are. As occupational specialists, I know your response to this concept will be considerably more favorable than the response would probably be at a national conference of English teachers. I suspect, however, that even some of you are hung up on the idea of credits and grades. We find it hard to believe that people will actually spend money, time and energy to learn something just for the pure joy of learning, especially when it's suited to their needs and interests.

If you have heard Ed Gleazer recently, you know that he is speaking constantly about the community commitment of the community college. In fact he predicts that this will be the major thrust of two-year colleges in the 1970's.

We here at Michigan State have recently launched a graduate training program which is to be called "the Kellogg Community Service Leadership Program." We will be working with a consortium of Michigan community colleges to explore and expand the community service potential of these institutions.

We have spent a considerable amount of time trying to define the nature of community services work. We know that our goal is to facilitate human and community development and we know that we can achieve

this only if we become effective in identifying and responding to the needs, aspirations, and potentialities of individuals, groups and organizations within our service areas.

My colleague, Dr. Gunder Myran, has just completed a study of more than a dozen colleges throughout the country. Each of these colleges has developed a comprehensive community service program. The range and the nature of activities in these programs are remarkable. If you analyze these activities you will find that they focus on personal development activities and community development activities. Let me clarify.

Personal Development functions represent those activities particularly designed to reach individuals and informal groups of individuals in hopes of helping them achieve a higher degree of personal self-realization and fulfillment. At the moment it seems to us that there are six personal development functions: (1) Career Development, (2) Social Outreach, (3) Educational Extension, (4) Educational Expansion, (5) Cultural Development, and (6) Leisure-time Activity.

(1) Career Development Function -- Providing opportunities for individual self-discovery and fulfillment with particular emphasis upon vocationally-related activities; e.g., career counseling, job placement, group guidance sessions, etc.

(a) Project EVE at Cuyahoga Community College (Ohio) provides counseling and referral services for women in the area of education, volunteer work, and employment.

(2) Social Outreach Function -- Organizing programs to increase the earning power, educational level, and political influence of disadvantage; e.g., ADC mothers, unemployed males, educationally deprived youth, welfare recipients, etc.

(a) New York City Community College developed a training program for welfare recipients to assist them in achieving a high school equivalency rating.

(b) The College of San Mateo (California) operates a reading development institute for those with educational deficiencies.

(c) Oakland Community College (Michigan) has a cultural enrichment program providing fine arts and performing arts experiences for ghetto children.

(3) Educational Extension Function -- Increasing the accessibility of the regular courses and curricula of college by extending their availability to the community-at-large; e.g., evening classes, TV courses, "week-end college," etc.

(a) Cuyahoga Community College (Ohio) operates a program for municipal employees in government buildings.

(b) Oakland Community College (Michigan) operates a number of extension centers in area high schools.

(4) Educational Expansion Function -- Programming a variety of educational, up-grading and new career opportunities which reach beyond the traditional limitations of college credit restrictions; e.g., institutes, tours, retreats, contractual in-plant training, etc.

(a) Milwaukee Technical College (Wisconsin) provides clinics on income tax, social security, insurance, investments, etc.

(b) The College of San Mateo (California) operates field study trips to Mexico, Death Valley, England, etc.

(c) Cuyahoga Community College (Ohio) provides on-site and on-campus job training with a variety of industry and business firms.

(d) El Centro College (Texas) operates a retail institute providing short courses and seminars on various phases of retailing.

(e) Rockland Community College (New York) is developing a human services curriculum to prepare subprofessionals in the health, educational, and public services fields.

(5) Cultural Development Function -- Expanding and enriching opportunities for community members to participate in a variety of cultural activities; e.g., fine art series, art festivals, artists in residence, community theatre, etc.

(6) Leisure-time Activity Function -- Expanding opportunities for community members to participate in a variety of recreational activities; e.g., sports instruction, outdoor education, summer youth programs, senior citizen activities, etc.

(a) Miami-Dade Junior College (Florida) operates a community recreation program which includes extension programs in ghetto areas.

In addition to these Personal Development Functions there are several Community Development Functions designed to assist established organizations of the community in achieving an effective and unified effort to improve the quality of life for all members of the community. Among these functions you will find:

(1) Community Analysis Function -- To diagnose needs and uncover resources within the community;

(2) Inter-Agency Cooperation Function -- To insure maximum use and articulation of existing resources in the community;

(3) Advisory Liaison Function -- To capitalize on the available

expertise within the community;

(4) Public Forum Function -- To encourage full discussion of problems and issues within the community;

(5) Civic Action Function -- To seek solutions to major problems through organized programs.

If such efforts are to be fruitful, then the college must provide leadership in several areas by implementing several Program Development Functions, as follows:

a Facility Utilization Function which provides places for groups to get together for a variety of reasons;

a Staff Consultancy Function which makes the special skills of faculty available to community groups;

a Conference Planning Function which helps groups to develop productive meetings, conferences, institutes, etc.;

a Public Information Function which keeps the community well informed of the opportunities available to them;

a Professional Development Function which helps the staff achieve an optional level of proficiency in community service;

a Program Management Function which establishes objectives, allocates resources, and evaluates outcomes.

As you can see, the range of activities is quite comprehensive. I'm sure also that, as occupational educators, you feel some affinity for the kinds of activities I have described.

The community college has a tremendous opportunity to become a unifying force within the community. In fact in many areas, it may well become the single force that can maintain a sense of community. Some writers are saying that the idea of community is dead, but we at Michigan State with our deep land grant commitment don't believe it -- and we look forward to a productive partnership with institutions who share our faith in the viability of the American Community.

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THE DYNAMICS OF TECHNOLOGY AND SOCIETY: NO COMPROMISE WITH IGNORANCE

by Dr. Grant Venn, Associate Commissioner, Bureau of Adult, Vocational and Library Programs, U. S. Office of Education

(Excerpts from the dinner address delivered to the AAJC Program With Developing Institutions workshop on Occupational Education at East Lansing, February 21, 1969)

Societies reflect, in large measure, the degree of application of technology. In the United States, we live in a society markedly different from any previous one -- largely because of the extent of the application of advanced techonology.

Technology is applied, organized knowledge -- causing the miracles we daily take for granted. These have come about because we have learned to harness energy instead of human beings and beasts of burden. We have learned the systematic control of elements and forces available to us, instead of making use of uncontrolled, naturally occurring materials for our needs.

Sophisticated, technological knowledge and practice affect our lives by causing machines to do our work, by managing equipment and elements to control our environment, by using complex computers to assist in solving our scientific problems. Controlled combinations of chemical elements produce dramatic metallurgical and plastic materials which make modern machine instruction possible and produce the modern miracle drugs, fertilizers and pesticides.

Applied biological science has led to the fantastic modern agricultural production of food and fiber and the giant strides in medical practice.

Organized technological knowledge in the social sciences is developing the potential for serving the well-being of our population and its desires, organized learning and many complex social services.

The rapidity, the progression of development and increasing application of technology in the United States is illustrated by the accelerating rate of change in several common activities....

The application of science and technology to the agricultural, industrial and commercial institutions of our society have been so great as to create a revolution in the social, economic, and educational operations of the country....

Historically, man has based his educational system and preparation for a role in society on a concept of stability. Changes which occurred took place over a period of generations. Our present adult population was educated with this concept in mind and grew up under these kinds of conditions. But the present generation of

young people find themselves engulfed in extreme change. We are in effect the first generation who must help educate young people to this new dimension of time and change.

The more complex a society becomes because of applied technology, the more dangerous it can become for its members. Perhaps the greatest danger of all, however, is technological ignorance on the part of the Nation's work force.

Highly developed technology permits no compromise with ignorance.

The preparation of workers in a technological society must be of the highest quality and must meet the needs of safety as well as efficiency. More and more, our lives depend on the performance of informed, skilled technicians and other occupational specialists.

The general well being and attitudes of our population are becoming increasingly dependent upon the teachers, social scientists and even upon the specialized knowledge of merchandising and distribution -- which touch the lives of us all. There is less and less opportunity for the uninformed and untrained worker in these fields in today's technological society.

Increased application of technology in a society thus automatically sets a mandate for an educational requirement. More and more specialized education must be provided to larger numbers of people so they may understand the technical principles of their work and the significance of special skills and techniques which they must learn....

The question might reasonably be asked, "Has this Nation's population the required mental or intellectual capacity to maintain or increase our technological society's development?" We already have reached the point in time when persons who want to work but who have no saleable or specialized skills or knowledge have no assurance of being able to find work and often cannot. Is our population sufficiently educable to meet the challenge of the complications of today's world of work?

There is overwhelming evidence that our population is capable of meeting the challenge. One indication of the general ability of our population is evident from the tests given to all who enter the United States Armed Forces. The Army general classification test has been given to hundreds of thousands. Those tested show wide variations in the amount of their formal education, but it is significant that more than half of those who took the test scored higher than many college graduates and even higher than some who held doctoral degrees....

In spite of this indicated high ability shown by the Army general classification test scores, fewer than 4 out of 10 who graduate from or leave high school enter college and only slightly more than 2 out of 10 are graduated with a baccalaureate or higher degree.

As a matter of fact, the present stage of sophisticated technological development confronts society with a serious shortage of the kind of worker requiring a nonbaccalaureate collegiate education. These are the supportive, occupational specialists such as technicians, associate degree nurses and similar specialized health workers, accountants, social workers, teaching assistants and agricultural equipment or production specialists.

The increasingly critical shortage of specialized technical and supportive workers on the one hand and the evident supply of educable persons on the other -- those who have left high school or who have been graduated from high school but who are not pursuing organized programs of education to prepare them for careers in a technological society -- represents an unprecedented challenge to junior and community colleges....

Nearly half the students who enter college programs directed toward a baccalaureate degree do not complete the program or receive the degree....

The requirement for organized scientific knowledge and the mathematics which supports it for entry into many of the post-high school occupational programs is comparable to that required for entering baccalaureate programs. Many students, for various reasons, do not prepare themselves while in high school by studying more than a minimum of science and mathematics and many do not develop a facility with reading, writing and speaking which would insure a reasonable probablity of success in these specialized occupational programs....

The problem of meeting the challenge of a large population of able, but not fully qualified, students for educational programs to meet technical worker requirements essentially requires that educational services be provided in an organized manner for able, willing and well-motivated students. This must start at the point in educational preparation which each individual has attained and provide the missing reading, science or mathematics which are the prerequisites for successful mastery of the occupational program to which the student aspires....

Junior college and technical institute administrators who have provided these special programs (some with over 20 years experience in providing such programs) agree that for many students, especially those who require the equivalent of one year of mathematics or one year of science with laboratory experience or both, should devote as much as two semesters to their remedial studies in those subjects. At the same time, these students can become involved in studies in their particular field of interest. This means that the total program of remedial studies plus the special two-year occupational curriculum will require more than two years; since the program requires two years for students who are fully qualified when they begin.

Administrators of these programs also state that when students have had the benefit of programs to remove their academic deficiencies as a part of their occupational study programs, the morale of the students and instructor both are improved; the number of

students who drop out because of academic failure is greatly reduced; the total cost of educating these specialized occupational personnel is reduced because of better use of facilities, teachers and fewer failures; and better qualified graduates are produced, making them more sought after by employers.

In addition, these programs permit able young people to complete an educational program which they could not have entered except for the remedial or upgrading preparatory study provided. Upon graduation, they are equipped to enter upon employment at a level to which they could not have aspired without this special preparation.

The value to the individual of such an opportunity usually allows him, in 3 to 5 years, to arrive at a degree of productivity and responsibility that normally would take him 12 to 15 years by past standards if he entered and picked up his education on the job by diligent work and study.

This means a net gain of some 10 years of high productivity, benefiting both the individual and his employer as a direct result of the student having an opportunity to overcome his academic deficiencies and successfully prepare himself for higher-level employment.

Such benefits are worth going after. The need for this kind of training is increasing geometrically and the technical trainer in today's society has become a key man -- an educator of profound worth.... Certainly he knows that many more technicians are required than are being produced every year just to meet the needs of presently established technologies.

The New Legislation. In October of 1968 in Washington, D.C., an event occurred which will surely have important, far-reaching effects on the education of technicians for years to come -- the dual ceremony at the White House when President Johnson signed into law the 59th and 60th education acts approved by the last Congress.

The first important piece of education legislation which President Johnson signed after taking office in 1963 was the Vocational Education Act of that year. The last piece of education legislation he signed as President was the Vocational Education Amendments of 1968, immediately following his signing of the Higher Education Amendments of 1968. Between them, these latest acts provide for programs, curriculum materials and construction assistance which will benefit in a measure yet unforseen the vocational and technical programs of the Nation.

For example, the vocational education amendments provide special emphasis and financial support for programs to help qualify able students for entrance into the specialized post-secondary occupational training which are described here.

Taken as a whole, the new Vocational Act -- Public Law 90-576 -- is the most sweeping and significant legislation dealing with occupational education in history.

The new Act will not only strengthen existing programs, but will develop new ones designed especially to equip inner city youths, disadvantaged adults and handicapped persons with both employability and job skills. It gives public schools for the first time a major opportunity to reach those most in need of a new educational approach.

Vocational funds should now become available for use in programs to serve ALL youngsters. A student need not decide to become a vocational enrollee to gain benefits from it. The Act permits courses for only one semester -- or orientation for occupations at the elementary and junior high school levels. It also focuses on youngsters who have special needs in the areas of high student dropout and high youth unemployment, providing earmarked funds for these areas.

Developing New Programs. Special funds also are provided for the development of new programs in areas that presently do not have specific vocational education. These would include emerging occupations in the new human services field and in the technical fields. In addition, there are specific provisions for vocational education for handicapped children. The Act also provides expanded support for a realistic partnership between business, industry and education -- where students may be in school part-time and at work part-time as a normal phase of their education process.

At present, it is estimated that there should be two technicians to every engineer or professional physical scientist; there should be 6 to 10 technicians for every medical doctor or professional researcher in the health fields and four to five for each professional biological scientist.

The 4th "R". The job of our Nation's schools is particularly critical in view of these new and emerging occupations and the resultant demands to be faced by the labor force.

Educational programs need to be made more relevant. This concept -- relevancy -- could be recognized as the 4th "R" in modern education. Emphasis should be on how students perform, not just on their mastery of subject matter. Achieving this objective may require a new purpose for the public schools. They must become "including in" rather than "selecting out" institutions. Program development must become more closely attuned to individual interests, aptitudes, ambitions, needs and subsequent occupational and educational requirements for every boy and girl. We can no longer teach some and not others.

The Vocational Education Amendments of 1968, I believe, provide a way to bring about the required changes. They are designed to help the "hard-to-reach" and "hard-to-teach." The new Act places resources and program flexibility at the discretion of State and local school agencies and is focused on the major deficiencies of the past. It is a major breakthrough, concentrating established forces of education in the United States on the problems of the ghetto, the disadvantaged student, the handicapped trainee and the school dropout as well as

on the potential technician. In full operation this program could affect more than 25 million people a year.

How can the Act bring about these needed changes?

For one thing, it authorizes more than double the current appropriations for the regular State grant programs, making possible great expansion of vocational education programs and a good start on many new programs. These grants are generally on a 50-50 matching basis. State plan requirements are specified for programs designed to insure that training for career vocations is available to all who need it or desire it. Standards for preparing and approving State plans are strengthened and States must prepare annual and long-range plans and evaluations.

The New State Plan. Because the new Act calls for an annual State plan that not only covers the current year but also the succeeding four years each time it is submitted, it is going to help provide for long-range planning development and evaluation. Each plan must be presented in a public hearing for people throughout the State, as well as to members of the State Advisory Committee. Thus, more ideas and more talents will be brought to bear on State plans.

The Act also authorizes funds to be made available to the State Advisory Committee and to the National Advisory Committee to hire staff, to contract studies and other work necessary to evaluate and review the plans. With these new ingredients the State plan is bound to become a more creative instrument for improving vocational education.

Another important point: the new Act authorizes $40 million in additional funds for fiscal years 1969 and 1970 for special programs for the disadvantaged. No State matching is required for these programs which are designed for persons who have academic, socio-economic or other handicaps that prevent them from succeeding in the regular program.

In addition, beginning with fiscal year 1970, emphasis on vocational education programs for the disadvantaged, the handicapped, dropouts, and youthful unemployed is assured by earmarking specific percentages of State allotments for these purposes.

Exemplary Projects. One of the new Act's most important provisions, in my opinion, authorizes some $222 million in the next four years for pilot programs and projects. Half of this sum may be used by the Commissioner to pay all or part of the costs of projects that will create what the law calls "a bridge between school and earning a living for young people, who are still in school, who have left school either by graduation or dropping out, or who are in post-secondary programs of vocational preparation," and for promoting cooperation between public education and manpower agencies. The remaining 50 percent may be used by State boards for making grants to local educational agencies to pay all or part of the costs of developing and operating exemplary occupational education programs.

These exemplary programs call for imaginative new approaches to vocational education. They should include those designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupations; those providing students with educational experiences through work during the school year or in the summer; and those calling for intensive occupational guidance and counseling during the last years of school and for initial job placement. I believe that secondary and post-secondary schools should be given the responsibility of obtaining entry jobs for students not planning for professional careers, just as in the past they have been responsible for getting academic graduates into baccalaureate programs.

Residential Schools. Also, the 1968 Act makes provisions for constructing and operating residential vocational schools for youths 15 to 21 years of age. It authorizes funds to be used by the Commissioner to make grants directly to State boards, colleges and universities, and public education agencies for this purpose. In addition, it authorizes the States to plan, construct and operate residential vocational education facilities -- with the Federal share of the cost set at a maximum of 90 percent. It also authorizes such sums "as may be necessary" for making annual grants to reduce the cost of borrowing for the building of residential schools and dormitories.

By taking disadvantaged youths out of their unfavorable environments, residential schools could effectively train them in both employability and job skills in an atmosphere conducive to learning.

The new legislation also authorizes appropriations for cooperative vocational education programs.

Cooperative work-study programs offer many advantages in preparing young people for employment. Through such programs, a meaningful work experience is combined with formal education enabling students to acquire knowledge, skills and appropriate attitudes. They remove the artificial barriers which separate work and education and, by involving educators with employers, create interaction whereby the needs and problems of both are made known. This makes it possible for occupational curricula to be revised to reflect current needs in various occupations.

The Act provides for financial assistance for personnel to coordinate such programs and to provide instruction related to the work experience; to reimburse employers when necessary for added costs incurred in providing on-the-job training and supervision.

More Work Experience Programs. In addition to cooperative work experience programs, the Act authorizes funds for work-study programs. These will enable schools to give needy youths taking vocational education and unemployed youthful dropouts enrolling in vocational programs part-time employment in public institutions or agencies. Although these jobs may not necessarily be relevant to their classroom work, they will make it financially possible for youths between the ages of 15 and 21 to remain in school and to learn good work

habits.

The new Act authorizes funds for consumer and homemaking education. At least one-third of the Federal funds shall be used for programs in economically depressed areas or those with high rates of unemployment which will assist consumers and improve home environments and the quality of family life. For this particular purpose the Federal share will be 90 percent. For the regular homemaking education programs the Federal share will be the standard 50 percent.

Under the new legislation, 10 percent of funds appropriated for regular programs are to be used for research and training -- half for grants by the Commissioner and half for grants by State boards in support of research and training in vocational education, experimental and demonstration programs, and to meet special needs of new careers and occupations.

Special Features of the Act. The Act also includes a program of grants and contracts by the Commissioner with colleges and universities, State boards and other organizations, to promote the development and dissemination of vocational education curriculum materials.

In addition, special studies will be made by the Department of Labor to determine national, regional, State and local projections of manpower needs.

And, finally, the legislation authorizes appropriations to enable the Commissioner to give leadership development stipends to vocational education personnel to attend vocational education development programs at colleges and universities, and State programs of in-service training and retraining of experienced personnel, including exchange of teachers with skilled technicians in industry; special institutes, and to familiarize teachers with new curricular materials.

This gives us, for the first time, authorization for money to train vocational teachers and I think we are going to be able to be more creative in this field than anywhere else in education because we are not tied down to certification requirements and other limitations to obtain the kinds of personnel that are needed.

The Commitment to Education. The United States is an affluent, strong and influential nation. Much of its success and its position of world leadership can be attributed to an impressive record of technological and economic advances, and to a strong historical commitment to education for all. These advances, however, have been accompanied by serious economic and social problems, such as urban and rural poverty, school dropouts, racial inequalities, educationally disadvantaged populations, manpower shortages and unemployed and underemployed people. Solutions to these problems depend largely upon the Nation's ability to maintain a highly educated, skilled and flexible work force.

Many of our most vexing dilemmas have resulted from changes in the nature of work. Old jobs are disappearing or being altered; new ones are emerging. Relocation of industry and shifts in market demands have further complicated the labor market. In addition, jobs for which physical strength and untrained minds were sufficient have drastically declined, while jobs requiring specific skills and advanced learning have greatly increased.

The New Mandate: P.L. 90-576. These are the reasons the Administration proposed new vocational education legislation to the 90th Congress and the reasons we have this new mandate from Congress.

The long-range effect of Public Law 90-576 and other education legislation passed by the 90th Congress will have to await the judgment of history. But I feel confident I can forecast some important effects within a year from today. With enlightened leadership in the community and junior college field and among the four-year institutions offering vocational-technical courses, there is every reason for us to expect important strides forward in post-secondary technical education in the United States.

These, then, are the dynamics of technology and society, as I see them, from the standpoint of education for the world of work. Our enemy is clear: it is ignorance. And modern technology will brook no compromise with ignorance.

LIBERAL LEARNING IN TECHNICAL EDUCATION

by Professor Norman C. Harris, Center for the Study
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(Excerpts from an address delivered to the AAJC/PWDI Workshop on occupational education, E. Lansing, Feb. 22, 1969)

Today, in America, and in some other democratic industrial nations, all men are free and almost all men work. In these advanced technological societies where the most certain guarantee of leisure is a lack of education, and where people with the most education are apt to work the hardest; where a highly scientific and technology-based society encourages horizontal and vertical mobility among classes -- the very idea of liberal learning solely for a leisured class, or of higher education as a cult for the few, is an anachronism. Higher education today is a bridge to life's work, not a means of getting out of work for life. Liberal education should represent the common learnings for effective citizenship in this society, in this decade, rather than a body of knowledge reserved for an intellectual elite whose radars are attuned only to emanations from the past.

The concept of elites, including intellectual elites, is useless and dangerous in 20th Century American society. If there is a body of knowledge concerned with the "good life" and made up of content from the humanities, sciences and the arts, which is "good" for bright students, then to some degree at least, and at some level of abstraction, these common learnings, this liberal or general education, is good for all students.

Raymond Aron develops this point in his paper, "The Education of the Citizen in Industrial Society," as follows:

> In an authoritarian regime, it suffices that the elite be informed. In a democratic regime, public opinion must be sufficiently informed to permit the (elected) rulers to listen to the advice of the scientist. In this sense democracy in our era remains more than ever a wager on the capacity of man to learn and to understand.

Eric Hoffer, the San Francisco longshoreman-turned-philosopher, sternly warns us against entrusting power to an intellectual elite. If the people are to be free, he wisely counsels, power and knowledge must reside with the people. People who wear blue collars, white collars, sport collars, no collars at all -- in these human beings lies the ultimate wisdom, according to Hoffer.

To assume that all the "common man" needs to know is enough to perform efficiently on the job, is to court disaster. The self-styled "intellectuals" on the current scene, the protesters, the dissenters, the new left and the radical right; the history debunkers, the myth creators, the "best" poets and guitar players, and the four-letter-word playwrights, are all having a field day at the expense of the rest of us. It could be funny if it weren't so potentially disastrous. And it isn't funny, because it's our freedom they are bent on destroying!

Do technicians have a stake in freedom? Most certainly they do! Liber (Latin root meaning "free") is their concern, and a liberal education is their right.

Some Problems Within the Family -

Notwithstanding the views just expressed, there is considerable controversy among technical educators over the value of liberal learning. Some feel that education in the common learnings and in the liberal arts should end with high school for those whose collegiate goal is occupational education and training. Time spent on general education and the liberal arts prevents sufficient emphasis on technical subjects, it is said. Technical training must be highly specialized and concentrated solely on the knowledge and skills essential to the particular occupation -- so goes the argument of those whose educational philosophy can be expressed by the phrase, "job training." And since this philosophy, expressed through the American Vocational Association, had a great deal of influence on the shaping of the Vocational Education Act of 1963, and on the subsequent preparation of state plans for vocational education in the fifty states, it is no surprise to find that the current Federal approach to technical education is a "job training" approach. In most states only those technical courses and programs with high manipulative content and low cognitive content can be supported by Federal funds. Consequently, the idea of "technical training" is gaining a strong foothold in many institutions today -- institutions which, with peculiar ambivalence, want to be a part of higher education, but are willing to take liberal learning out of their technical curriculums in order to get approval for Federal dollars.

It is well known that Federal vocational funds are not available for the teaching of courses in the humanities, the social studies, or the arts in technical education curriculums. It is equally true, but perhaps not so well known, that many state directors of vocational education will not approve for Federal reimbursement courses in physics, chemistry, and mathematics, unless content from these fields is sifted out and packaged under such labels as "related science" or "related math," and taught by a person with a vocational certificate.

We should attempt a distinction here between technical education and technical training. Technical education, in my definition, is that kind of education which is clearly post-high school in level and which is ordinarily arranged to lead to an associate degree. More often than not, technical education programs involve significant content from mathematics and either the physical sciences or the life sciences. There is a relatively high ratio of cognitive to manipulative content. Graduates of these curriculums ordinarily move into jobs at semi-professional and technical levels, and they work for or with professionals in the same or related discipline on a day-to-day basis, and may indeed move into management and supervisory positions themselves, after a suitable period of experience.

The term, technical training, on the other hand, almost defies definition. It is today a catch-all phrase covering everything from elementary courses in high school shops to one-year certificate or diploma programs in area vocational schools, to short-term courses under MDTA or OEO for job-upgrading for employed adults. There is heavy emphasis on manipulative skills in all of these programs, and not much cognitive content. Such programs, so the literature says, train "beauty technicians," "Custodial technicians," "food technicians," "Service station technicians," and many other kinds of trade and craft and semi-skilled workers.

Job training programs like these cannot, I suppose, incorporate a great deal of content in background theory or in liberal learning. Technical education associate-degree programs, however, should provide for a generous infusion of liberal learning, and must provide as well a solid base of theoretical content in mathematics, science, and other fields of basic knowledge.

I am fully aware of the difficulties of providing, in a two-year curriculum of some 64-70 semester hours, enough specialized technical instruction in the business, industrial or engineering-technical field, plus significant content in liberal and humanistic learning. But to those who are reluctant even to try, I submit that the basic problems of man's existence today are not centered in industry, business, engineering, or technology, but in man himself -- in his loves and hates, his beliefs, his attitudes, and his relationships with others. In a democracy, the value system, the goals men seek, the very tone and style of living are not set by elites, but by the mass of the people themselves. Increasing numbers of so-called "average citizens" are going to be educated in two-year colleges in technical education programs. It is worth noting that as they take their places in productive society they will actually work for less than half of their waking hours. Is not the quality of their lives during their "living time" at least as important as the quality of their production during their "working time"?

Content and Method -

As far as I know we have no body of research which conclusively shows that a given increment of general or liberal education results in a concomitant and quantifiable increment of good to society. Research in this field, to extend and amplify that already done by Jacob and Katz, is badly needed. But if we accept the thesis of this paper that liberal learning should be a part of the curriculum for technicians, the questions: How much?--What kind? and--How shall it be taught?-- always arise.

I regret that we do not have reliable answers to these three questions. Briefly, however, we can discuss some patterns which seem to be emerging in two-year colleges. Vocational-technical school patterns would vary rather widely from the scheme to be suggested.

How much? There is a growing measure of agreement that, for associate degree technical education curriculums, about one-fourth

of the total credit hours should be allotted to general education, or liberal learning. Another fourth is usually allotted to background theory and supporting courses in science, mathematics, and such disciplines; leaving about one-half of the total credit hours for the specialized technical courses of the major. Since many of these courses are laboratory-oriented, with three clock hours per credit hour, far more than one-half of the total clock hours are spent in specialized technical courses.

What kind? Technical institutes which are a part of a university face the same problem with regard to the kind of liberal learning available, as that which confronts technical education divisions of community colleges. The "Lit School" of the university and the Arts and Sciences Division of the community college offer a wide range of freshman and sophomore courses in liberal arts fields, but these may or may not be suitable for technical students.

Technical students on an individual basis, can sometimes be programmed for these "standard" liberal arts courses. and in a few individual cases the results prove to be entirely satisfactory. These few cases are the exception, rather than the rule, however. In my opinion, the liberal learning content of technical education curriculums should be planned especially for the group of students it is intended to serve. Some reasons for this view are set forth here:

1. The "standard" freshman courses in various liberal arts disciplines are often not intended as an experience in general education at all, but are the first course in the discipline for majors in that discipline. Putting technical students in these courses on the ground that they should know something of anthropology, economics, political science, etc., is tantamount to putting a social studies major into Transistor Circuits 204, on the theory that he needs to know something about the technological world in which we live.

2. The "regular" courses are unabashedly pitched at a level of abstraction which suits only the very academically able student. Technician students are ordinarily "middle-level" students academically, and would have extreme difficulty in competing with the very academically able students in these liberal arts courses.

3. The technical student ordinarily has only two years for his program, and consequently cannot go into as much detail in the liberal arts as the "regular" course sequences demand. Liberal arts courses for technical students should cut across disciplinary boundaries and synthesize content from several related areas. As an example, instead of separate courses in political science, economics, sociology, and government, a single two-semester overview of these separate disciplines might well be given in a single-year-long, three-credit-hour class.

4. All too often the content of "standard courses" has little

applicability to present-day problems. Or, if courses which do have such applicability are offered, they are advanced-level courses, requiring other courses as pre-requisites.

Consequently, it seems to me that building a liberal arts or general education core for technical students merely by selecting existing courses from the Arts and Sciences Division catalog is an exercise in futility. We need new courses, wherein scope and sequence may well depart from tradition; wherein a conscious effort is made to provide content which is germane to present-day problems -- drawing on the past as needed, to be sure; but not dwelling on the past with the historian's passion for it.

Let me suggest two examples to illustrate what is meant here. The examples chosen are English and Social Studies.

English. It is proposed that all technical students take one full year of college English. On the one hand, the course would not be "vocational English" or "technical writing" or "business English"; and on the other hand, neither would it be the present college freshman composition and literature course with its heavy emphasis on precision in grammar usage for one semester, and on Elizabethan and/or avant garde literature the other semester.

An English course for associate degree, occupational education students, should accomplish three objectives:

1. Develop the ability to deal with ideas in writing, with emphasis on the substance of what is written, rather than on absolute precision in grammar.

2. Develop improved skills in reading, and through judicious selection of materials, encourage improvement in the reading habits and tastes of the student. The implication here is that Hot Rod Magazine, and Readers Digest, will not be the principal vehicles of instruction; but by the opposite token, neither will the Iliad, nor Ulysses, nor Catcher in the Rye.

3. Develop the ability to communicate ideas orally, both in formal situations (i.e., public speaking) and in informal and small-group discussions.

Social Studies. A two-semester course integrating several social studies fields is suggested. The frame of reference could be "Man in Industrial Society" or some such unifying thread. The disciplines of history, economics, political science, sociology, and anthropology could be drawn upon to provide subject matter. Among the possible objectives might be the following:

1. An understanding of some of the major historical and evolutionary periods which have brought about the scientific-industrial society in which we live today.

2. Some understanding of economic systems in general, and spe-

cifically, a more thorough appreciation of the factors and principles which govern the operation of a "managed" free-enterprise economy.

3. An appreciation of representative democracy as a form of government for a free people, and some understanding of how it works at local, state, and national levels.

4. An appreciation of the nature of man himself and of the problems confronting man in an over-populated world.

How (and by whom) should liberal arts courses be taught?

Just as I am convinced that the shop teacher is incapable of providing liberal education under the guise of "related English," or "related economics," so am I equally despairing of the efforts of most teachers of liberal arts subjects when they condescend (or are "persuaded") to offer a course in their field for technical students.

The "English-is-English" or "history-is-history" syndrome is nearly always at work here. The phrase, "watering down," is certain to come into the conversation within fifteen seconds after discussions begin. The very thought that a person's revered discipline is being considered as a "service course" is bound to make the hackles rise. (There is, after all, the very real question as to whether history is for people or for historians.)

There is only one way out of this dilemma, and it will take time -- several years perhaps. Just as we need new courses for this educational objective, we also need a new breed of teachers -- teachers who are generalists across a broad field, rather than specialists in a narrow field -- teachers who perceive students as future citizens, rather than as future discipline-oriented specialists -- teachers who enjoy integrating knowledge from many disciplinary fields, rather than retreating into the cloister of a single field of knowledge. Such teachers are not now available in any appreciable quantity, and one of the twentieth century's sharp challenges to higher education -- to the member institutions of this Association -- is to prepare the kinds of teachers we need for this important task. "Average" or "middle level" youth outnumber "bright" youth by three to one. It is high time that we turn our attention to their needs.

Conclusion:

For these young people -- these technicians -- the years in a junior college or technical institute may be our last chance to challenge them to think about society and their place in it; about man and his destiny; and about the legacy left to them (as Sir Isaac Newton expressed it) "by the giants of the past on whose shoulders they stand."

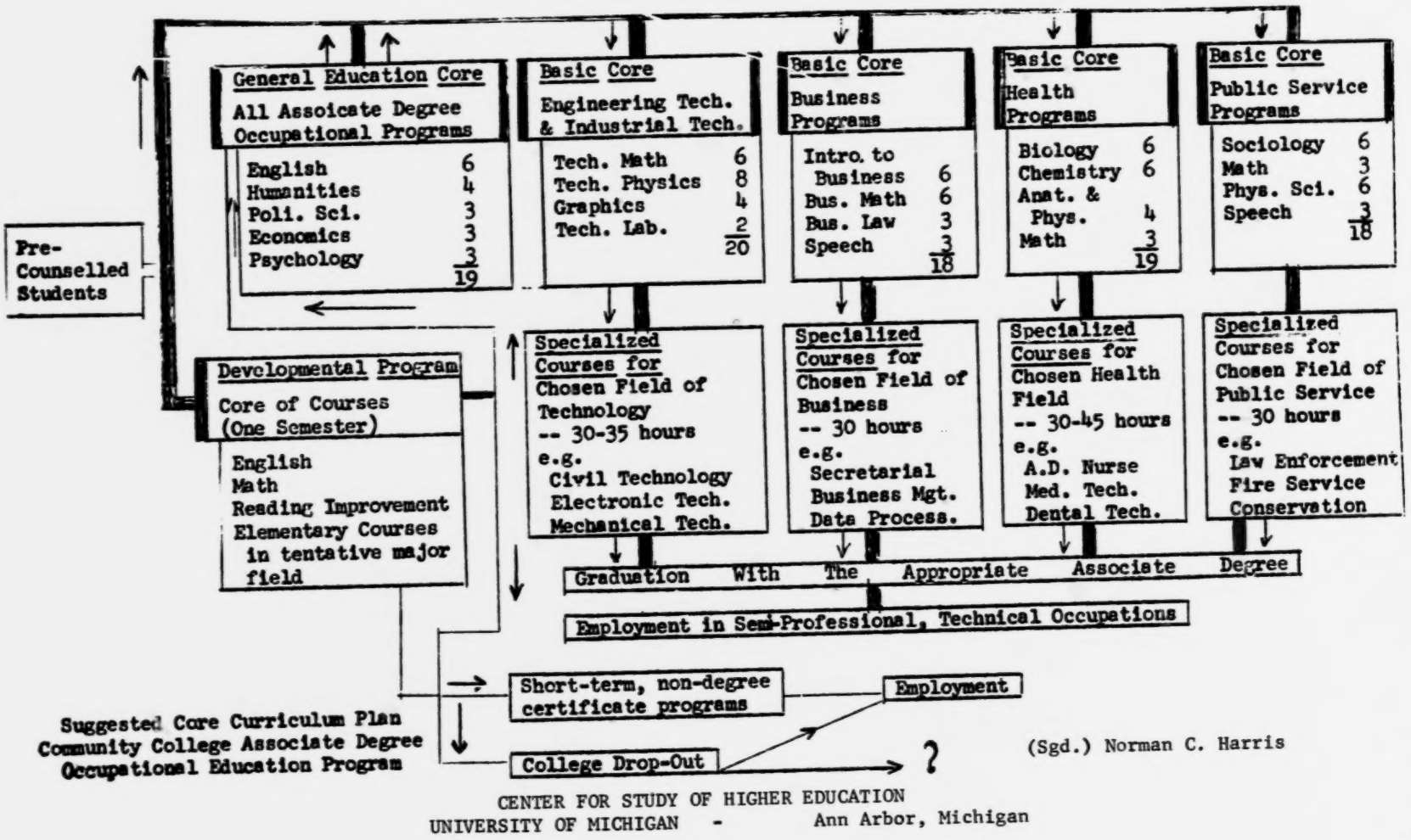
We want competence on the job -- certainly, we must have it -- but we must have competence too in the realm of ideas that we stand to win or lose the fight for freedom in which we are currently engaged, both at home and on many foreign shores.

In an address which he titled, "Man as an End in Himself," Adlai Stevenson expressed what I am trying to say far more eloquently than I can. Let me quote him briefly in closing:

> Whether democracy can prevail in the great upheaval of our time is a valid question. We have good reason to know how clumsy, slow, inefficient, and costly it is compared to the celerity, certainty, and secrecy of absolutism.... The enemies of freedom, whatever the magnificent ends they propose -- whether they propose the brotherhood of man, the kingdom of the saints, 'from each according to his ability; to each according to his needs' -- all miss just this essential point: that man is greater than the social purposes to which he can be put. He must not be kicked about even with the most high-minded of objectives. He is not a means or an instrument. He is an end in himself.

This is the essence of what we mean by democracy --"an irrevocable and final dedication to the dignity of man."

* * *



Suggested Core Curriculum Plan
Community College Associate Degree
Occupational Education Program

(Sgd.) Norman C. Harris

CENTER FOR STUDY OF HIGHER EDUCATION
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79/80

PART III

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Colby CJC, Kans.
- Jerry Gallentine

College of Dupage, Ill.
- John Anthony
- William Gooch

Columbia Basin C, Wash.
- Kas Marking

Community & Tech. C, U of Toledo, Ohio
- Mike Dunn
- Robert Kehrl

Eastern Iowa CC
- Everett Clover
- Donald Foreman
- Charles Goodell
- Glen McDougall

Ellsworth C, Ia.
- Ann Ochs
- Donald Wilson

Essex Cty. CC, Md.
- John Carmicahel

Flint CJC, Mich.
- Charles Roche

Garden Cty CJC, Kans.
- Robert Foree

Hagerstown JC, Md.
- Joseph Snarponis

Henderson CC, Ky.
- Marshall Arnold
- Bob Park

Illinois Valley CC
- John Hawse

Jackson CC, Mich.
- William Ely
- Robert Hanlin
- Wallace Ollila

Jefferson C, Mo.
- Ray Walsh

Kankakee CC, Ill.
- Paul Ebeling
- Robert Zimmer

Kansas City Kansas CJC
- Jack Flint
- Charles Johnson

Kirtland CC, Mich.
- Arthur Kaherl
- Wayne Krueger

Lake Region JC, N.D.
- Merril Berg

Lansing CC, Mich.
- Joseph Bazylewicz
- Frank Benedict
- Edwin Bergmann

George Boroff
Philip Gannon
William Monroe
Stephen Nicholson
Robert Peterson
William Schaar
Harold Walper

Laredo JC, Tex.
Domingo Arechiga
Tom Deliganis

Lassen C, Calif.
Kenneth Cerreta
John Hamilton

Macomb Cty. CC, Mich.
Austin Hartshorn
Edward Leibson

Manchester CC, Conn.
Fred Ramey, Jr.

Manufacturing Trades Apprentice School, Mich.
Melvin Kavieff

Marshalltown CC, Ia.
Melvin Dostal

Metropolitan JC, Mo.
Donald Welsh

Montcalm CC, Mich.
Donald Fink
Gary Moore

Morton JC, Ill.
A. D. Cerasoli
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A. P. Kovanic
Lionel Rankin

Navaho CC, Ariz.
R. R. Allen

Paducah CC, Ky.
John Cromwell
Larry Dowdy

Parkersburg Center, W. Va.
Nathan Breed

Peninsula C, Wash.
Milton Hunt
Floyd Young

Platte C, Nebr.
Donald Newport
Vernon Taylor

St. Clair Cty. CC, Mich.
Wayne Chaflin
Maurice Fritch
Clarence Knight
Arnold Metz
Richard Norris
Colen Sommerville

Schoolcraft C, Mich.
Jon Adams

Sinclair CC, Ohio
Walter Bunnell
Martin L. Krauss
Pierre Kleff

Southeastern Christian C, Ky.
L. V. Houtz

Southwestern Michigan C
Joseph De Santis
Francis Hiscock
R. A. Pietak

Thornton JC, Ill.
Harry Cho
Joseph Gutenson
Francis Miller

Tompkins-Cortland CC, N.Y.
Earl Levengood
John McConkey
Thomas Mecca

Vincennes University, Ind.
Bill Spence

Walla Walla CC, Wash.
Wayland DeWitt
Philipp Scott

Wayne Cty. CC, N.C.
Paul Rankin

West Shore CC, Mich.
John Schwetz

Wharton Cty. JC, Tex.
Mitchell Ammons

* * *

From Canada:

Lethbridge JC, Lethbridge, Alberta, Canada
H. M. Jubber

* * *

Other participants:

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